



**राष्ट्रीय खेल विश्वविद्यालय
मणिपुर
केन्द्रीय विश्वविद्यालय
युवाकार्यक्रम एवं खेलमंत्रालय
भारत सरकार**

**NATIONAL SPORTS UNIVERSITY
MANIPUR, INDIA
Central University
Ministry of Youth Affairs and Sports
Government of India**

**Bachelor of Science in Sports Coaching
(B.Sc. Sports Coaching)
Specialization: Football**

SCHEME OF EXAMINATION, STRUCTURE & COURSE CONTENT

Four Years: Eight Semesters, Regular Degree Programme

Following UGC-CBCS Guidelines

2021-22 to 2024-25

Department of Sports Coaching 28-09-2021

Bachelor of Science in Sports Coaching**B. Sc. (Sports Coaching)****Specialization: Football****SEMESTER - I**

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
THEORY COURSE						
BSC/CC/101	Introduction to Sports Culture and Coaching	3	48	30	45	75
BSC/CC/102	Anatomy and Physiology	3	48	30	45	75
BSC/CC/103E	Historical Development and Organizational Structure: Football	3	48	30	45	75
BSC/GE/01	Introduction to Information Technology in Sports	2	32	20	30	50
BSC/AECC/01	English (Modern Indian Languages)	2	32	20	30	50
LAB PRACTICAL						
BSC/CC(P)/102	Anatomy & Physiology	1	32	10	15	25
BSC/GE(P)/01	Introduction to Information Technology in Sports	1	32	10	15	25
SPORTS PRACTICAL						
BSC/CCP/104E	General Conditioning and Performance – I: Football	4	128	50	50	100
BSC/CCP/105E	Practical: Football	6	192	75	75	150
TOTAL		25	592	275	350	625

NCC will be included as per the UGC guidelines.

NB: CC= Core Course, AECC=Ability Enhancement compulsory course,DSC= Discipline Specific Course, GE=Generic Elective, SECC= Skill Enhancement core course, CCP= Core course practical

SEMESTER - I

INTRODUCTION TO SPORTS CULTURE AND COACHING

COURSE CODE: BSC/CC/101

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/101	Introduction to Sports Culture and Coaching	3	48	30	45	75

COURSE LEARNING OUTCOMES

After completing this course, the students will be able to

- Understand the Indian Sports Culture, its Philosophy and Culture Heritage.
- Understand role of Sports Competition to Create Sports Culture and impact on strengthening sports ecosystem
- Know about the origin of International and National Games and its organization and conduct role in Sports Culture Development
- Understand social impact of activities of Sports Associations, Institutions, Schemes and Awards.

UNIT - I

Indian Sports Culture

- 1.1 Philosophy of Sport Culture, Sports as a Cultural Heritage
- 1.2 History of Exercise and Sports Science in ancient India
- 1.3 Sports and Games in India during British period and after Independence, Regional Sports Culture in India
- 1.4 Ancient history of games and sports in different continents

UNIT-II

Role of Sports Competition to Create Sports Culture

- 2.1 Impact of Community Sports and Local Sports Competition
- 2.2 Significance of School, College and University Sports Competition
- 2.3 Importance of National and International Sport Events
- 2.4 Influence of League Competition

UNIT-III

Origin of International and National Games and its organization and conduct role in Sports Culture Development

- 3.1 Olympic Games and Commonwealth Games: Values and Culture
- 3.2 Asian Games and SAF Games: Values and Culture
- 3.3 Major Sports International, World Competitions and Championship, World University Games
- 3.4 National Games, Khelo India, All India University Games, SGFI, Rural Sports in India and Major National Sports Events and League etc.

UNIT-IV

Sports Associations, Institutions, Schemes and Awards in India: Social impact

- 4.1 Ministry of Youth Affairs and Sports and its Schemes, Sports Authority of India, NSNIS, National Sports University, LNIPE, NADA, NDTL, NYK
- 4.2 Indian Olympic Association – Objectives Structure and Functions, State Sports Association/Sports Academy: Objective Structure and function,
- 4.3 Corporate Sports Promotion. School, College and University Sports Culture
- 4.4 National, State and Sports Awards: Individual and Institutional, Financial scheme and support etc.

SUGGESTED READING

1. Deshpande S. H., Physical Education in Ancient India, Bharatya Vidya Prakashan, 1992.
2. Khan, Eraj Ahmed. History of Physical Education, Patna: Scientific Book Co.
3. Leonard, Fred Eugene and Affleck George B. Guide to The History of Physical Education, Philadelphia Leo & Febiger, 1962.
4. Majumdar D.C. Encyclopedia of India Physical Culture Baroda Good Companions, 1952.
5. Rajgopalan K. A. Brief History of Physical Education in India, Delhi Army Publisher 1962.
6. Rice Emmett, A. Hutchinson John L. and Lee Marbal A. Brief History of Physical Education. New York: The Ronald Press Co. 1960.
7. Singh Ajmer, et al. Modern Text Book of Physical Education Health & Sports, Kalyani Publisher.
8. Mondal S, Science of Exercise: Ancient Indian Origin, Journal of the Association of Physician of India, 2013.

SEMESTER - I
ANATOMY AND PHYSIOLOGY
COURSE CODE: BSC/CC/102

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/102	Anatomy and Physiology	3	48	30	45	75

COURSE LEARNING OUTCOME

- Understand the Need and importance of anatomy and physiology in the field of physical education.
- To know the structure and function of cell and tissue and muscular system
- To understand classification of bone and joints.
- To understand circulatory and respiratory system, digestive and endocrine system, excretory and nervous system.

UNIT - I

Introduction of Anatomy & Physiology

- 1.1 Meaning, Definition, Need and importance of anatomy and Physiology in the field of physical Education and Sports science
- 1.2 Skeletal System, Classification of Bones, Function of bones, Types of Joints, Classification of joints and their functions.
- 1.3 Definition, Structure and Function of the Cell,
- 1.4 Tissue: Types and structure of Tissues, Organs and systems

UNIT - II

Introduction of Muscular and Nervous System

- 2.1 Muscular System: Gross Anatomy of Skeletal Muscles.
- 2.2 Types of Muscles and Muscle Contraction, Group action in skeletal muscles
- 2.3 Motor unit, functional types of skeletal muscles, muscles metabolism and fatigue
- 2.4 Nervous system: Central Nervous System, Peripheral Nervous Systems, function of nervous system.

UNIT-III

Cardiovascular and Respiratory System

- 3.1 Heart: its structure and function, Systemic and pulmonary circulatory system
- 3.2 Cardiac Cycle, Stroke volume, Cardiac output and Blood Pressure
- 3.3 Respiratory System: lungs, Respiratory tract, Mechanism of Respiration (internal and external respiration)
- 3.4 Exchanges of gases, Ventilation and lungs volumes, Pulmonary Volumes and Vital Capacity

UNIT - IV

- 4.1 Digestive System: Structure and Function
- 4.2 Endocrine System: Structure and Function
- 4.3 Excretory System: Structure and Function
- 4.4 Reproductive System: Structure and Function

Practical

Anatomy and Physiology Course CODE: BSC/CC (P)/102

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC(P)/102	Anatomy & Physiology	1	32	10	15	25

UNIT-I

- 1.1 Demonstration of cell, tissue, major muscles(origin and insertion) through video
- 1.2 Identification of human bones, Joints and its explanation by the students
- 1.3 Measurement of BP, resting heart rate and exercise heart rate
- 1.4 Measurement of Lungs volumes and Capacities

UNIT-II

- 2.1 Video presentation of digestive system and its explanation by the students
- 2.2 Video Presentation of endocrine gland its explanation by the students
- 2.3 Video Presentation of Kidney and urinary tract and its explanation by the students
- 2.4 Video Presentation of human Brain and its explanation by the students

SUGGESTED READINGS

1. Chaurasia B.D (2020) B D Chaurasias Handbook of General Anatomy, 6th edition, CBS Publisher.
2. Dr. A. Chandra Sekhar (2014) Handbook of Anatomy & Physiology, All India Publishers & Distributors; 2nd Edition
3. Elaine Marieb and Suzanne Keller (2017) Essentials of Human Anatomy & Physiology, Global Edition, Publisher-Pearson; 12th edition.
4. Fredric H. Martini, Michael J. Timmons Human Anatomy Prentice Hall, New Zealand 2000.
5. Garg K. (2020) Essentials of Anatomy and Physiology for GNM with Clinical Importance, Publisher - CBS Nursing.
6. Jamet Parker The Human Body Atlas Om Books Publication Comp. Inc. 2006.
7. Ken Ashwell The Student Anatomy of Exercise Manual MedTechan Imprint of Scientific International Pvt. Ltd., Australia 2012.
9. Moorthy, A. M. (2014). Anatomy physiology and health education. Karaikudi: Madalayam Publications.
10. Richard L. Drake Grays Anatomy for Students Elsevier Churchill Livingstone Comp. Inc., Philadelphia 2005.
12. Gerard J. Tortora and Bryan H. Derrickson (2017) "Tortora's Principles of Anatomy and Physiology" Publisher: Wiley ; 15th edition.
13. G.L. Khanna (2016) Exercise Physiology and Nutrition, Friends Publications (India); First edition.

SEMESTER - I

HISTORICAL DEVELOPMENT AND ORGANIZATIONAL STRUCTURE: Football

COURSE CODE: BSC/CC/103E

CourseCode	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/103E	Historical Development and Organizational Structure:Football	3	48	30	45	75

ESSENCE OF COURSE

The course will enable the students to understand the basic skill of football and the ways to improve performance. Its aims to understand about the history of football, philosophy of coaching, organization and management of competition, terminology used in the game.

COURSE LEARNING OUTCOMES

After completing this course, the students will be able to

- Understand the history and development of football.
- Understand the structure and function of international and national federations.
- Understands the concept of coaching.
- Organize and manage the competition.
- Qualification round for World cup and ASIA cup.

Unit-1

1. Historical Background of Football

- 1.1. Origin and development of Football
- 1.2. Formation and structure of FIFA,AFC
- 1.3. History of AIFF
- 1.4. Golden era of AIFF

Unit-2

Historical development of Football Coaching in India

- 2.1 Historical development of Football coaching in India
2. Indian football team performance in international competitions
- 2.3 District and State football Association and their role
- 2.4 History of World cup football and other Important Football tournament in world and India

Unit-3

2. Organization and Management of Competition

- 3.1 Meaning and importance of Organization and management
- 3.2 Organization of Football tournament
- 3.3 Tournament and its types
- 3.4 Drawing of a Fixture Knock- out, league and combination of both

Unit-4

4. Qualification system for International an

- 4.1 Qualification round for AFC, CAF and OFC
- 4.2 Qualification round for UEFA, CONCACAF & CONMEBOL
- 4.3 Qualification round for Olympic game
- 4.4 History of Santos trophy



SEMESTER - I
INTRODUCTION TO INFORMATION TECHNOLOGY IN SPORTS
COURSE CODE: BSC/GE/01

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/GE/01	Introduction to Information Technology in Sports	2	32	20	30	50

COURSE LEARNING OUTCOME

After completing this course, the students will be able to

- Understanding the Concept of Information & Communication and Implement various scientific teaching aids
- Understand the versatile facilities on internet for source of knowledge
- Utilize the various modern Gadgets in sports

COURSE CONTENTS

UNIT - I

Introduction to Information & Communication Technology

- 1.1 Concept, Importance, Meaning & Nature of Information&Communication Technology.
- 1.2 Need of Information & Communication Technology in Physical Education; Scope of ICT in Education & Sport.
- 1.3 Teaching Learning Process, Publication, Evaluation, Research Administration.
- 1.4 Paradigm shift in Education due to ICT content with special reference to Curriculum.

UNIT-II

Introduction to Internet Browsing

- 2.1. Internet: Evolution, Protocols, Interlace Concepts, Growth of Internet, ISP; Internet Vs. Intranet.
- 2.2. Application. E-Mail: Concepts, POP and WEB Based E-mail, merits, address, Basics of sending & Receiving, E-mail Protocols, Mailing List, Free E-mail services.
- 2.3. Telnet Concept, Remote Logging, Protocols, Terminal Emulation. Massage Board, Internet chatting voice chart text chat.
- 2.4. WORLD WIDE WEB (WWW) –History, working web browsers, its functions, concept of search Engines, Searching the Web, HTTP, URLs, Web Servers, Web; Protocols.

UNIT – III

Modern Gadget and Technologies in Sports

- 3.1. Introduction to sports gadgets and technologies.
- 3.2. Sports Gadgets: Heart Rate Monitor; Polar watches; Heddoko – Uniforms with sensors; Myovolt pads for sports therapy
- 3.3. Sports Technologies: Hawk-Eye Technology; Stump Camera in cricket; Goal Line Technology in Soccer; Radar Gun technology in Tennis
- 3.4 Information Technology-enhancing sports performance and maintenance.

PRACTICAL

Introduction to Information Technology in Sports

Course Code: BSC/GE (P)/01

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/GE(P)/01	Introduction to Information Technology in Sports	1	32	10	15	25

Unit -I

- 1.1. Basic Operation of Computers
- 1.2. Microsoft Office
- 1.3 Designing of own small apps and create new competence through available Software.
- 1.4 Access to Sports Analytics and Technology

UNIT -II

- 2.1. Demonstration of various Sports Analytical Software.
- 2.2. Demonstration of Hawk eye technology with computer analysis, Goalline technology analysis, Computerized sports performance analysis
- 2.3. IT technology in Video Analysis and Photo Analysis
- 2.4. Demonstration of designing techniques, tactics and strategies through software.

Suggested Reading

1. Irtegov, D. (2004). Operating system fundamentals. Firewall Media.
2. Marilyn, M. & Roberta, B. (n.d.). Computers in your future. 2nd edition, India: Prentice Hall. Milke, M. (2007). Absolute beginner's guide to computer basics. Pearson Education Asia. Sinha, P. K. & Sinha, P. (n.d.). Computer fundamentals. 4th edition, BPB Publication.
3. P.M. Heathcote (2000), 'A' Level Computing (4th ed), Payne-Gallway Publishers Ltd ISBN 1-903112-2
4. P.M. Heathcote (2000), 'A' Level ICT (2nd ed), Payne-Gallway Publishers Ltd ISBN 0-9532490-8-5
5. Tudor Dorothy and Tudor Ian (1997), Business Systems Development, NCC Education Services Limited ISBN 1-90234-305-0

SEMESTER - I

ENGLISH (MODERN INDIAN LANGUAGES)

Course CODE: BSC/AECC/01

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/AECC/01	English (Modern Indian Languages)	2	32	20	30	50

COURSE LEARNING OUTCOME

After completing this course, the students will be able to

- Have an appreciable understanding of English grammar.
- Produce grammatically and idiomatically correct spoken and written discourse.
- Spot language errors and correct them.

UNIT-I

Parts of Speech

- 1.1 Nouns - different types; Pronoun - different types, Verbs – Tense - Concord - types of verbs
- 1.2 Adjectives – different types; Adverbs - different types, Prepositions - different types
- 1.3 Conjunctions - subordinating and coordinating
- 1.4 Determinatives articles - possessives - quantifiers

UNIT-II

Structure of English

- 2.1 Phrases - various types of phrases, Clauses - main and subordinate clauses
- 2.2 Basic sentence patterns in English - constituents of sentences, Complement – adverbials
- 2.3 Basic sentence patterns in English - various types of sentences – simple – compound – complex – declaratives – interrogatives – imperatives – exclamatory.
- 2.4 Analysis and conversion of sentences – Active to Passive and vice versa – Direct to Indirect and vice versa.

UNIT-III

Composition

- 3.1 Written Composition – Letter writing, Written Composition – Précis writing
- 3.2 Written Composition – Outline story, Written Composition - Expansion of proverb
- 3.3 Written Composition - Short essay
- 3.4 Written Composition – Email / Resume writing

SUGGESTED READINGS:

1. Wren and Martin's High School English Grammar & Composition. S.Chand Publishing, 2018.
2. Cuttis, Martin. (2010) Oxford Guide to Plain English. Oxford University Press.

SEMESTER – I

GENERAL CONDITIONING AND PERFORMANCE – I: Football

Course Code: BSC/CCP/104E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CCP/104E	General Conditioning and Performance – I: Football	4	128	50	50	100

Objectives:

- To develop general and specific fitness
- To compare their physical fitness with their sports performance
- To Know proper warming up and cooling down exercises
- To learn how to conduct fitness class

UNIT-I

General warming-up, Specific warm-up and cooling down exercises

- 1.1 General warming up
- 1.2 Specific warm up
- 1.3 Stretching
- 1.4 Cooling down

UNIT-II

Endurance and speed training

- 2.1 Slow continuous method
- 2.2 Fast continuous method
- 2.3 Movement speed
- 2.4 Acceleration speed

UNIT-III

Strength, agility and Flexibility

- 3.1 Cross weaver test
- 3.2 Strength endurance
- 3.3 Suttle run
- 3.4 Post isometric stress

UNIT-IV

Sports specialization performance test.

4.1 30 meter running with ball(SAI test)

4.2 football test

4.3 vertical jump (heading)

4.4 t test (with ball)

Evaluation Total Mark 100

Evaluation criteria	Internal Assessment	External Assessment
General and specific Warming up	10Marks	10Marks
Physical Fitness test All the fitness components	20 Marks	25 marks
Sports Performance	20 marks	25 marks
Total	50 Marks	50 Marks



SEMESTER - I

PRACTICAL: Football

Course Code: BSC/CCP/ 105E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CCP/ 105E	Practical: Football	6	192	75	75	150

Learning Outcomes:

- Ball feeling and development of fundamental of techniques.
- Kicking – Push Pass, High Drive, Low Drive
- Receiving the Ball – Different parts of the foot
- Dribbling the ball – different parts of the foot.



Ball Feeling

- 1.1 Running with ball (dribbling)
- 1.2 Juggling the ball with the feet
- 1.3 Juggling the ball with the thigh
- 1.4 Juggling the ball with the head

UNIT-II

Basic technique

- 2.1 Passing the ball with inside of the foot
- 2.2 Receiving the ball with sole of the foot
- 2.3 Passing the ball with instep foot
- 2.4 Receiving the ball with inside of the foot

UNIT-III

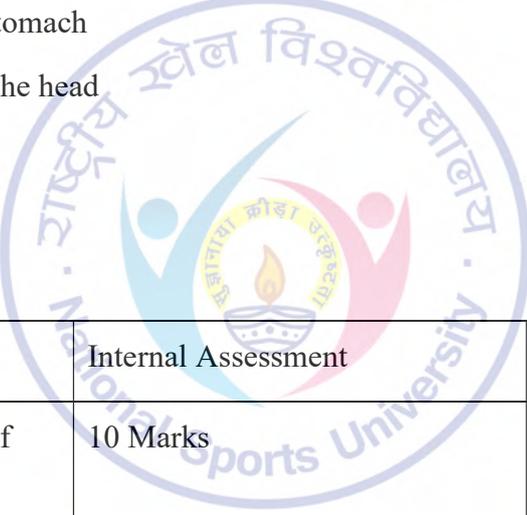
Kicking and receiving/ Controlling

- 3.1 Lofted kick
- 3.2 Receiving the ball with instep
- 3.3 Low drive
- 3.4 Controlling the ball with outside of the foot

UNIT-IV

Controlling the ball above the waist and passing

- 4.1 Receiving the ball with chest
- 4.2 receiving the ball with stomach
- 4.3 Receiving the ball with the head
- 4.4 Hill pass



Evaluation criteria	Internal Assessment	External Assessment
Passing with different part of the foot	10 Marks	10 Marks
High drive	20 marks	20 marks
Low drive	20 Marks	20 Marks
Dribble	15 Marks	15 Marks
Playing performance	10 marks	10 marks
Total	75 Marks	75 Marks

SEMESTER – II

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
THEORY						
BSC/CC/201	Kinesiology and Biomechanics	3	48	30	45	75
BSC/CC/202	Introduction to Bio-Chemistry	2	32	20	30	50
BSC/CC/203E	Rules, Regulations and Interpretation: Football	3	48	30	45	75
BSC/GE/02	Communication Skill (English)	2	32	20	30	50
BSC/AECC /02	Environmental Science	2	32	20	30	50
LAB PRACTICAL						
BSC/CC(P)/201	Kinesiology and Biomechanics	1	32	10	15	25
BSC/CC(P)/202	Introduction to Bio-Chemistry	1	32	10	15	25
BSC/GE(P)/02	Communication Skill (English)	1	32	10	15	25
BSC/AECC(P)/02	Disaster Management	1	32	-	-	-
SPORTS PRACTICAL						
BSC/CCP/204E	General Conditioning and Performance – II: Football	4	128	50	50	100
BSC/CCP/205E	Practical: Football	6	192	75	75	150
TOTAL		25	608	275	350	625

NCC is compulsory for all students in first year.

NB: CC= Core Course, AECC=Ability Enhancement compulsory course,DSC= Discipline Specific Course, GE=Generic Elective, SECC= Skill Enhancement core course, CCP= Core course practical

SEMESTER – II

KINESIOLOGY AND BIOMECHANICS

COURSE CODE: BSC/CC/201

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/201	Kinesiology and Biomechanics	3	48	30	45	75

Course LEARNING OUTCOMES

After completing this course, the students will be able to

- Understanding the concept of kinesiology and biomechanics
- Understanding the classification and fundamental movements
- Describing the concept of kinetics and kinematics
- Kinesiological and biomechanical Analysis of the locomotion of movements

COURSE CONTENTS

UNIT - I

Introduction to Kinesiology

- 1.1 Definition, Aims and Objectives of Kinesiology and sports Biomechanics
- 1.2 Role of Kinesiology and biomechanics in Sports.
- 1.3 Brief history with important contributions of Aristotle, Leonard Da Vinci, Weber brothers
- 1.4 Basic Concepts of Axes and Planes, Center of Gravity&Line of Gravity

UNIT-II

Joints and Movements (Upper Extremity and Lower Extremity)

- 2.1 Location and action of major muscles acting at the following joints:
(Shoulder, Elbow, Wrist, Hip, Knee & Ankle
- 2.2. Fundamental Movements of Human Body)
- 2.3 Two-joint muscles (Origin , Insertion and Function)
- 2.4 All or None Law , Reciprocal Innervations,

UNIT-III

Application of Mechanical Concepts

- 3.1 Quantities in biomechanics, Scalar and vector quantities, Motion, type of motion, Distance and speed, Displacement and velocity, Acceleration, Angular distance and Angular displacement, Angular Speed, Angular Velocity, Angular Acceleration, Inertia, mass, weight, Newton's Laws of motion.
- 3.2 Work, Power & Energy, potential and kinetic energy.
- 3.3 Force and its characteristics, Internal and external forces and application of force, centripetal and centrifugal forces

3.4 Stability and Equilibrium (Nature , Types and Advantages), factors affecting stability, principles of stability, Lever: Types and Implications in Sports, mechanical advantages of levers

UNIT -IV

Projectile motion, Kinesiological and mechanical analysis of movements

- 4.1 Kinesiological analysis of fundamental movements
- 4.2 Motion, its importance in sports with reference to Diving , Gymnastics, Jumping & Throwing
- 4.3 Projectile Motion : Principles, Factors affecting Projectile Motion and it's Applications in Sport
- 4.4 Mechanical Analysis of Fundamental Movements : (Walking, Running, Jumping, Throwing, Catching, Landing)

LAB PRACTICAL

Kinesiology and Biomechanics

Course CODE: BSC/CC (P)/201

UNIT-I

- 1.1. Demonstration of fundamental movements with reference to Axis and planes
- 1.2. Calculation of Center of Gravity, Segmentation Method
- 1.3. Motion Analysis of Sports Skill (Videography)
- 1.4. Demonstration and analysis of projectile motion

UNIT-II

- 2.1. Mechanical analysis of fundamental movements with Kinovia soft ware
- 2.2. The use of videography in recording sports movements
- 2.3. Recording the movement and Experimental procedures
- 2.4. Maintaining a practical record book

SUGGESTED READING

1. A.K. Lawrence Mamta MP *Kinesiology* (Friends Publication India 2004)
Broer, M.R. *Efficiency of Human Movement* (Philadelphia : W.B. Saunders Co., 1966)
2. Bartlett Roger, *An introduction to sports Biomechanics, Analysing Human Movement Pattern*, Rouledge, 2007.
3. Bunn, John W. *Scientific Principles of Coaching* (Engle wood cliffs : N.J. Prentice Hall Inc., 1966)
Duvall, E.N. *Kinesiology* (Engle wood cliffs : N.J. Prentice Hall Inc., 1956)
4. Hoffman S.J. *Introduction to Kinesiology* (Human Kinesiology publication In.2005 Uppal
5. Rasch and Burke, *Kinesiology and Applied Anatomy* (Philadelphia : Lea and Fibger, 1967) Scott, M. G. *Analysis of Human Motion*, New York.
6. Wells, K. P. *Kinesiology* (Philadelphia : W.B. Saunders Co. 1966) Cooper, John M. and Glassgow, R.B. *Kinesiology* (St. Louis : C.V. Mosby Co., 1963)

SEMESTER - II
INTRODUCTION TO BIO-CHEMISTRY
COURSE CODE: BSC/CC/202

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/202	Introduction to Bio-Chemistry	2	32	20	30	50

COURSE LEARNING OUTCOMES

After completing this course, the students will be able to

- Understand the concept of exercise & sports biochemistry
- Understand the concept of metabolism during different types of sports & exercise
- Understand the energy system Phosphagen System, Anaerobic System, Aerobic System
- Understand the various biochemical parameters used to monitor the sports training

UNIT - I

INTRODUCTION TO BIOCHEMISTRY AND ENERGETICS

- 1.1 Concept of Exercise and sports biochemistry
- 1.2 Importance of Sports and Exercise Biochemistry
- 1.3 Biochemical Concepts - Organization of matter, Chemical bonding, Chemical Reactions
- 1.4 Muscle Contractile Elements in Muscle, Process of Muscle Contraction, Energy for Muscle Contraction
ATP the energy currency

UNIT- II

BIOENERGETICS AND FUNDAMENTALS OF EXERCISE BIOCHEMISTRY

- 2.1 Meaning and definition of Metabolism, Anabolic and Catabolic processes, Fundamentals of Bio-Energetics, Energy systems – Phosphagen System, Anaerobic System, Aerobic System
- 2.2 Brief overview on- Carbohydrate metabolism, Carbohydrates: Basics of Carbohydrate Metabolism, Regulation of glycogen metabolism,
- 2.3 Lipid metabolism: definition, classifications and general functions; Introduction to essential fatty acids, cholesterol, Blood lipids, brief review of lipoproteins.
- 2.4 Proteins: definition, classification and Biomedical Importance, Plasma Proteins and functions

UNIT- III

Biochemical aspects of exercise

3.1 Introduction to investigations related to Basics of routine Bio-chemical tests for Physiological functions i.e., Lipid Profile, Blood Urea, Blood Urea Nitrogen (BUN), Serum Creatinine, Serum Uric Acid with estimation of Urinal Protein and CP Kinase, Glucose.

3.2 Fundamentals of Acid base balance and its regulations during exercise.

3.3 Immune system and exercise, Classification and biochemical structure of immunoglobulins with functions

3.4 Overview of Sports anemia in athletes.

PRACTICAL

Introduction to Bio-Chemistry

Course CODE: BSC/CC (P)/202

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC(P)/202	Introduction to Bio-Chemistry	1	32	10	15	25

UNIT-I

1.1. Introduction to basic biochemical lab equipment

1.2 Laboratory safety and procedures

1.3. Microscopic study of cell

1.4 Urinal Protein and General urine analysis

UNIT-II

2.1. Estimation of hemoglobin and Blood cells

2.2. Lipid Profile

2.3. Urea and Uric acid

2.4 Glucose

SUGGESTED READINGS

1. American College of Sports Medicine (2010). Guidelines for Exercise Testing and Prescription (8th Edition). Lippincott Williams & Wilkins, Philadelphia.
2. McCardle, W.D., Katch, F.I. & Katch, V.L. (2007). Exercise Physiology. Energy, Nutrition and Human Performance (6th Edition). Lippincott Williams & Wilkins, Baltimore.
3. Vassilis Mougios. Exercise Biochemistry (2006). Human Kinetics.
4. Wilmore, J.H. & Costill, D.L (2008). Physiology of Sport and Exercise (4th Edition). Human Kinetics, Champaign, IL.

SEMESTER – II
RULES, REGULATIONS AND INTERPRETATION: Football

Course CODE: BSC/CC/203E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/203E	Rules, Regulations and Interpretation: Football	3	48	30	45	75

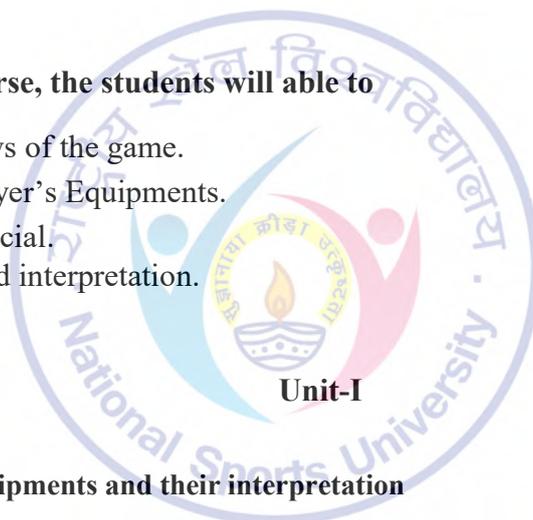
ESSENCE OF COURSE

This course will enable the students to understand the development laws of the game and their anticipation. Its aims to develop the knowledge of officiating in football. .

COURSE LEARNING OUTCOMES

After completing this course, the students will able to

- To understand the laws of the game.
- Understand about player's Equipments.
- Understand about official.
- Understand games and interpretation.



Field, Players and Players Equipments and their interpretation

- 1.1. History and the Role of IFAB
- 1.2. The Field of play
- 1.3. The Ball
- 1.4. The Players, The Players Equipment

Unit-II

Officials and Conduct of Match and their interpretation

- 2.1. The Referee and other match official
- 2.2. Duration of the Match
- 2.3. Start and restart of the match
- 2.4. Ball in and out of play

Unit-III

Fouls and outcome of a Match and their interpretation

- 3.1. Determining outcome of a Match
- 3.2. Offside
- 3.3. Foul and misconduct
- 3.4. Free Kick (Direct and Indirect)

Unit-IV

Set pieces and Football terms

- 4.1. The Penalty Kick, The Throw In
- 4.2. The Goal Kick, The Corner Kick
- 4.3. Laws changes
- 4.4. The Football terms



SEMESTER –II
COMMUNICATION SKILL (English)
COURSE CODE: BSC/GE/02

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/GE/02	Communication Skill (English)	2	32	20	30	50

COURSE LEARNING OUTCOMES

After completing this course, the students will be able to

- Understand Types and process of communication, Verbal and Non-verbal Communication
- Know about the Language Skill in relation to sports
- Understand the Oral Communication Skill in relation to sports

UNIT-I

Communication: An Introduction

1.1 Introduction to communication: Process of Communication; Differences between Technical and General Communication; Barriers to Communication; Measures to Overcome the Barriers to Communication.

1.2 Types of Communication: Types of Communication; Verbal Communication-Importance of verbal communication- Advantages of verbal communication- Advantages of written communication; Significance of Non-verbal Communication

1.3 Communication in Organizations: Internal Communication; Stake Holders in Internal Communication; Channels of Internal Communication; External Communication; Stake Holders in External Communication; Channels of External Communication.

1.4 Non-Verbal Communication: Personal Appearance; Gestures, Postures, Types of Body Language, Facial Expression; Eye Contacts; Time language; Silence

UNIT-II

LANGUAGE SKILLS

2.1: Listening skills: Hearing and listening; importance of listening skills, listening practice.

2.2: Speaking skills: Importance of speaking skills; Pronunciation; fluency; speaking practice.

2.3: Reading skills: sub-skills of reading; effective reading; reading practice.

2.4: Writing skills: types of writing; General Principles of Writing; Improving Writing Skills, Essentials of good style.

UNIT - III

Oral Communication Skills

3.1 Presentation Literacy: foundation; ideas; tools.

3.2 Presentation Literacy: process; on stage.

3.3 Speaking effectively: basic skills; developing confidence.

3.4 Speaking effectively: subject; audience.

Practical

Communication Skill (English)

Course CODE: BSC/GE(P)/02

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/GE(P)/02	Communication Skill (English)	1	32	10	15	25

UNIT-I

1.1 Effective Speaking Skills.

Practical: Ice-Breaking Activity and JAM Session- Situational Dialogues – Greetings – Taking Leave – Introducing Oneself and Others.

1.2 Effective Communication strategies.

Practical: Situational Dialogues – Role-Play- Expressions in Various Situations –Making Requests and Seeking Permissions - Telephone Etiquette.

UNIT-II

2.1 Descriptions- Narrations- Giving Directions and Guidelines.

Practical: Giving Instructions – Seeking Clarifications – Asking for and Giving Directions – Thanking and Responding – Agreeing and Disagreeing – Seeking and Giving Advice – Making Suggestions.

2.2. Public Speaking – Exposure to Structured Talks - Non-verbal Communication- Presentation Skills.

Practical: Making a Short Speech – Extempore- Making a Presentation.

2.3. Group Discussion- Interview Skills.

Practical: Group Discussion- Mock Interviews.

SUGGESTED READINGS

1. A.S. Hornby's. *Oxford Advanced Learners Dictionary of Current English*, 7th Edition
2. Bansal, R.K. and J.B. Harrison. *Spoken English*. Orient Language.
3. G.O.E. Lydall, *A practical Guide to précis Writing & indexing*. London: Macdonald & Evans Ltd. (1955)
4. John Elisson Kahn, D. Phil., *How to write & speak better English*.
5. Prasad, P. *Communication Skills*. S.K. Kataria& Sons.
6. R.C. Sharma, Krishna Mohan. *Business Correspondence and Report Writing*.
7. Sen, Leena. *Communication Skills*. Prentice Hall of India, New Delhi.
8. Sethi, J & et al. *A Practice Course in English Pronunciation*. Prentice Hall of India, New Delhi.

SEMESTER – II
ENVIRONMENTAL SCIENCE
COURSE CODE: BSC/AECC/02

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/AECC/02	Environmental Science	2	32	20	30	50

COURSE LEARNING OUTCOMES

After completing this course, the students will be able to

- Understand the scope, importance, eco system and renewable and non-renewable resources
- Understand the Biodiversity, Conservation and Environmental Pollution and Management
- Understand Environmental Policies, Practices and Human Communities & Environment

Unit-I

Introduction to Environmental Studies, Ecosystems & Natural Resources: Renewable and Non-renewable Resources

- 1.1 Scope and importance of Environmental Science; Concept of sustainability and sustainable development, Environmental Sustainability in Sports.
- 1.2 Ecosystem and its structure and function; Energy flow in an ecosystem: food chains, food webs and ecological succession. Case studies of the following ecosystems: a) Forest ecosystem b) Grassland ecosystem c) Desert ecosystem d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)
- 1.3 Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations.
- 1.4 Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state). And Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs, case studies.

Unit-II

Biodiversity, Conservation and Environmental Pollution and Management

- 2.1 Level and Values of Biodiversity; Threats to biodiversity: Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity; Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.
- 2.2 Environmental pollution: types, causes, effects and controls; Air, water, soil and noise pollution and nuclear hazards and human health risks
- 2.3 Solid waste management: Control measures of urban and industrial waste.
- 2.4 Plastic pollution: Pollution case studies and report.

Unit-III

Environmental Policies, Practices and Human Communities & Environment

- 3.1 Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture
- 3.2 Human population growth: Impacts on environment, human health and welfare.
- 3.3 Environmental movements: Chipko, Silent valley, Bishnois of Rajasthan.
- 3.4 Environmental communication and public awareness, case studies and report.

SUGGESTED READING

1. A.C. Pandey (2014). *“Frontiers in Environmental Research, Academic Excellence, India.*
2. Agrawal, K. C. (2001). *Environmental biology.* Bikaner: Nidhi publishers Ltd.
3. Gupta (2001) *Methods in Environmental Analysis, Water, Soil and Air,* AGROBIOS (India).
4. Hofrichter, R. (ed.) *Toxic Struggle: The Theory and Practice of Environmental Justice.* Philadelphia: New Society Publishers.
5. K. Glaz, B.K. Rimer, K. Viswanath (2008). *Healthy Behavior and Healthy Education* (4th edition). Jossey-Bass A Wileyimprint.
6. K. Tones, Y.K. Robinson’s, S. Tilfor (2013). *Health Education,* Springer.
7. L.B. Lave, E.P. Seskin (2013). *Air Pollution and Human Health,* Ref. Press, New York. P.K.
8. Lancaster, R. N. and Leonardo, M. (eds.) 1997. *The Gender /Sexuality Reader: Culture, History, Political Economy.* New York: Routledge. 10
9. P. Elliot, J.C. Wakefield, N.G. Best, D.J. Biggs (2000). *Spatial Epidemiology: Methods and Application.*
10. Park J.E. & Park K. (2002). *Textbook of preventive and social medicine.* Jabalpur: Banarasi Das Bhanot Publication.
11. Shiva, V. 1989. *Staying Alive: Women, Ecology and Development.* London: Zed Books.
12. Stein, R. 2004. *New Perspective on Environmental Justice: Gender, Sexuality and Activism.* New Jersey: Rutgers University Press.
13. UGC (2005). *Textbook of Environmental Studies,* University Press.
14. UNDP: Human Development Report (2000) New Delhi: OUP.
15. W.P. Cummingham, B.W. Saigo (2001). *A Global Concern,* Cummingham.
16. WHO (2006). *Preventing diseases through healthy environment.*

Semester – II
Practical
Disaster Management
Course Code: BSC/AECC(P)/02

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/AECC(P)/02	Disaster Management	0	0	0	0	0

Unit – I

Natural disaster

- 1.1.Land disaster
- 1.2.Water disaster
- 1.3.Mountain disaster
- 1.4.Sea disaster

Men Made Disaster

- 2.1. Chemical disaster
- 2.2. Mechanical and Technical disaster
- 2.3. Structural disaster
- 2.4. Nuclear disaster



SEMESTER – II

GENERAL CONDITIONING AND PERFORMANCE – II: Football

COURSE CODE: BSC/CCP/204E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CCP/204E	General Conditioning and Performance – II Football	4	128	50	50	100

Objectives:

- To develop flexibility
- To develop speed and endurance
- To develop strength and agility
- To learn how to conduct fitness class

Flexibility exercise development

- 1.1 Forward lunges
- 1.2 Forward lunges
- 1.3 Cross over
- 1.4 Cooling down



UNIT-I

UNIT-II

Endurance and speed development

- 2.1 Variable pace method
- 2.2 Fartlek method
- 2.3 **Locomotors**
- 2.4 Reaction ability

UNIT-III

Strength, and agility

- 3.1 Standing broad jump
- 3.2 Strength endurance
- 3.3 10 meter settle run
- 3.4 t- test

UNIT-IV

Sports specialization performance test.

- 4.1 Cooper test
- 4.2 Ronaldo soccer test
- 4.3 Vertical jump (heading)
- 4.4 Settle run (with ball)

Evaluation Total Mark 100

Evaluation criteria	Internal Assessment	External Assessment
Physical Fitness test All the fitness components	15 Marks	15 Marks
Sports Performance	15 Marks	15 Marks
Warming Up and cool down class Proficiency	10 Marks	10 Marks
Conditioning class proficiency	10 Marks	10 Marks
Total	50 Marks	50 Marks

Semester – II

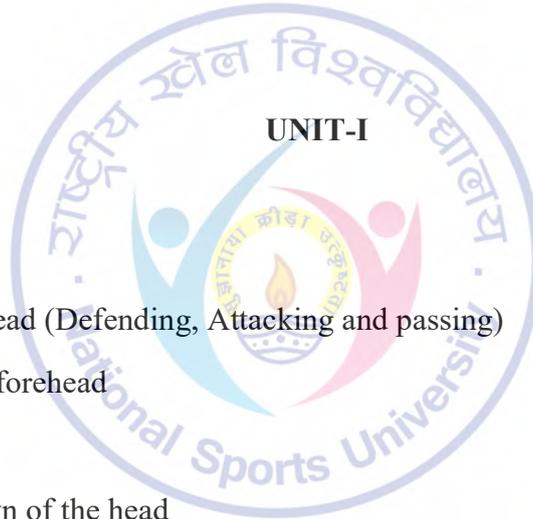
PRACTICAL: Football

Course Code: BSC/CCP/205E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CCP/205E	Practical: Football	6	192	75	75	150

Learning Objectives:

- Learning Fundamental skills: heading, dribbling, tackling
- Learning Dribble for possession
- Field marking in football



UNIT-I

Heading

- 1.1 Heading with the forehead (Defending, Attacking and passing)
- 1.2 Jump heading with the forehead
- 1.3 Diving heading
- 1.4 Flick the ball with crown of the head

UNIT-II

Dribbling

- 2.1 Dribbling the ball with different part of the foot
- 2.2 Change-of-pace
- 2.3 Dribble for possession
- 2.4 Dribble for penetration

UNIT-III

Tackling

- 3.1 Side block tackle
- 3.2 Block tackle
- 3.3 Sliding tackle
- 3.4 Pock tackle

UNIT-IV

Field marking and officiating

- 4.1 Marking the field of play
- 4.2 Referee
- 4.3 Assistance referee
- 4.4 Forth official



Evaluation Total Mark 150

Evaluation criteria	Internal Assessment	External Assessment
Volley, chip	20Marks	20Marks
Dribbling	10 marks	10 marks
Heading- standing, jumping	10 Marks	10 Marks
Field marking and record book	20 Marks	20 Marks
Officiating	15 marks	15 marks
Total	75 Marks	75 Marks

SEMESTER– III

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
THEORY						
BSC/CC/301	Fundamentals of Psychology and Sociology	2	32	20	30	50
BSC/CC/302	Applied Exercise and Sports Physiology	2	32	20	30	50
BSC/CC/303E	Technique and Technical Development: Football	3	48	30	45	75
BSC/SECC/01	Science of Sports Training and Conditioning	3	48	30	45	75
BSC/GE/03	Traditional Sports and Games	2	32	20	30	50
LAB PRACTICAL						
BSC/CC(P)/301	Fundamental of Psychology and Sociology	1	32	10	15	25
BSC/CC(P)/302	Applied Exercise and Sports Physiology	1	32	10	15	25
BSC/GE(P)/03	Traditional Sports and Games	1	32	10	15	25
SPORTS PRACTICAL						
BSC/CCP/304E	General Conditioning and Performance – III: Football	4	128	50	50	100
BSC/CCP/305E	Practical: Football	6	192	75	75	150
TOTAL		25	608	275	350	625

NSS is compulsory for all students in second year.

NB: CC= Core Course, AECC=Ability Enhancement compulsory course, DSC= Discipline Specific Course, GE=Generic Elective, SECC= Skill Enhancement core course, CCP= Core course practical,

SEMESTER– III
FUNDAMENTALS OF PSYCHOLOGY AND SOCIOLOGY
COURSE CODE – BSC/CC/301

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/301	Fundamentals of Psychology and Sociology	2	32	20	30	50

COURSE LEARNING OUTCOMES

After completing this course, the students will be able to:

- Understand the Basic Concepts of Sports Psychology
- Understand how sports environment and group process influence performance
- Understand the sociological issues for optimizing behavior and performance

UNIT-I

Basic Concepts of Psychology of Sports

- 1.1 Introduction to Sports Psychology: Definition, History and understanding present and future trends.
- 1.2 Personality and Sports: Defining personality and understanding personality structure
- 1.3 Motivation and Emotions: Definition, developing achievement motivation and positive emotions.
- 1.4 Arousal, Stress and Anxiety: Definition, identifying sources of stress and anxiety, connecting arousal and anxiety to performance.

UNIT-II

Sports Environment and Group Process

- 2.1 Sports Environment and Group Process, Competition and Cooperation: Definition, viewing competition as a process, enhancing cooperation
- 2.2. Group and Team Dynamics: Differences between groups and teams, group development, creating effective team climate.
- 2.3 Group Cohesion: Definition, relationship between cohesion and performance, enhancing cohesion.
- 2.4 Leadership and Communication: Definition, effective leadership, understanding communication process.

UNIT-III

Sports and Society:

- 3.1 Development of sociability through Sports and development of sociability to enhancement sports performance
- 3.2 Creation of social acceptance of Sports in Society, Development of athlete's identity as the role model in the society
- 3.3 Role of Family, Institution, and peer group/fan club in developing sports culture, ethical values and code of conduct for players, coaches and spectators
- 3.4 Gender equity in sports, sports and violence (players and spectators)

PRACTICAL
FUNDAMENTALS OF PSYCHOLOGY AND SOCIOLOGY

Course CODE: BSC/CC(P)/301

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC(P)/301	Fundamental of Psychology and Sociology	1	32	10	15	25

UNIT-I

- 1.1. Reaction time and Bio Feedback technique: Profile assessment of an athlete.
- 1.2. Color Progressive Matrices
- 1.3 Depth perception, Finger dexterity, Concentration, Anticipation test: demonstration and performing on an athlete.
- 1.4. Memory test, Achievement motivation test, Sheldon's Personality Test, Big Five Personality test: interpretation in relation to Sports.

UNIT-II

- 2.1. Assessment of Leadership quality and cohesiveness
- 2.2. Sociometry
- 2.3. Social Facilitation: Assessment of Audience effect in Sports.
- 2.4. The student will take Psycho-Social Project in their respective Sports/Games

SUGGESTED READING

1. Ball, D. W. & Loy, J. W. (1975). Sport and social order; Contribution to the sociology of sport. London: Addison Wesley Publishing Co., Inc.
2. Blair, J. & Simpson, R. (1962). Educational psychology, New York: McMillan Co. Cratty, B. J. (1968). Psychology and physical activity. Eaglewood Cliffs. Prentice Hall.
3. Kamlesh, M. L. (1998). Psychology in physical education and sport. New Delhi: Metropolitan Book Co.
4. Loy, J. W., Kenyon, G. S. & McPherson, B. D. (1978). Sports and social system. London: Addison Wesley Publishing Company Inc.
5. Loy, J. W., Kenyon, G. S. & McPherson, B. D. (1981). Sports culture and society. Philadelphia: Lea & Febiger.
6. Mathur, S.S., (1962). Educational psychology. Agra. Vinod Pustak Mandir. Skinner, C. E., (1984.). Education psychology. New Delhi: Prentice Hall of India.
7. William, F. O. & Meyer, F. N. (1979). A handbook of sociology. New Delhi: Eurasia Publishing House Pvt Ltd.
8. Ball, Donald, W. and Lay John W. Sport and Social order Contribution to the Sociology of Sport.
9. Lea & Febiger, 1981).
10. Loy John W., Mepheron, Barry D., and Kenyon Gerall, Sport and Social System (London: Addition Wesley Publishing Co. Inc., 1978).
11. Loy, Jhon W., Kenyon, Geral S. and Mopherson, Barry D., Sports Culture and society (Philadelphia: London: Addition Wesley Publishing Co. Inc., 1975).

SEMESTER – III
APPLIED EXERCISE AND SPORT PHYSIOLOGY
COURSE CODE: BSC/CC/302

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/302	Applied Exercise and Sports Physiology	2	32	20	30	50

LEARNING OUTCOMES

After completing this course, the students will be able to:

- Understand about the exercise physiology and its role in sports.
- Understand the muscles adaptation with various training load.
- Understand the effect of exercise on circulatory and respiratory system.
- Understand hot and humid temperature and sports performance, High altitude training and sports performance.

COURSE CONTENTS

UNIT-I

Exercise and Bioenergetics

- 1.1 Meaning, Definition and its application of exercise and sports physiology in health fitness and sports performance
- 1.2 Bioenergetics and exercise metabolism; Measurement of energy expenditure in various activity
- 1.3 Aerobic and Anaerobic metabolism during exercise and training
- 1.4 Physiological basis of training related to specific sports, Assessment of aerobic and anaerobic capacity and its interpretation of data (Project based learning).

UNIT-II

Muscular System

- 2.1 Theories of muscular contraction and sliding filament theory, Neural control of muscular activity
- 2.2 Effect of exercise and training on muscular system
- 2.3 Physiology of Fatigue, Over training and Recovery
- 2.4 Development and determination of muscle strength, Assessment of muscular strength, collection and interpretation of data.

UNIT-III

Conditioning and Training on circulatory and respiratory Systems

- 3.1 Cardiac Cycle, Stroke Volume, Cardiac Output, factors affecting heart rate and Cardiac Hypertrophy.
- 3.2 Effect of Exercises and training on the Cardio vascular system.
- 3.3 Mechanism of Breathing, Respiratory muscles, Minute ventilation, Diffusion of gases, Oxygen Debt, Lung Volumes and Capacities, Second Wind.
- 3.4 Effects of exercises and training on respiratory system.

UNIT-IV

Exercise and Sport Physiology and Performance

4.1 Immune system and sports performance

4.2 Growth and development, maturity of sports person, Genetic and sports performance

4.3 Exercise and Neuro endocrine system

4.4 Hormonal response and adaptation to exercise



PRACTICAL

Applied Exercise and Sports Physiology

COURSECODE: BSC/CC(P)/302

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSCCC(P)/302	Applied Exercise and Sports Physiology	1	32	10	15	25

UNIT-I

- 1.1 Recording of Resting, Exercise and Recovery Heart rate and Blood pressure, its interpretation and designing specific training protocol
Video presentation and analysis of Physiological system, its interpretation and designing specific training protocol
- 1.2 Anthropometric measurement and Body Composition assessment, its interpretation and designing specific training protocol,
- 1.3 Measurements of Lungfunction, its interpretation and designing specific training protocol
- 1.4 Assessment of Cardiovascular System by Harvard Step Test, Cooper's Test, Beep Test and PWC 170.

UNIT-II

- 2.1 Recording of Resting, Exercise and Recovery Heart rate and Blood pressure, its interpretation and designing specific training protocol
- 2.2 Aerobic and Anaerobic Capacity measurement, its interpretation and designing specific training protocol
- 2.3 Measurement and analysis of lactic acid and heart rate in field, temperature (Dry, wet, and globe temperature) and its interpretation designing specific training protocol as a projectwork
- 2.4 Hypoxic training in Hypoxic chamber/Altitude

REFERENCE

1. Astrand, P.O. and Rodahi.K. Text Book of Work physiology.Tokye: Mc. Graw – Hill Kogakusha, Ltd. 1970).
2. Bourne, Geoffey H. The Structure and Function of Muscles: (London: Academic Press, 1973).
3. Guyton, Arthur C. Test Book of Medical Physiology (Philadelphia: W.B. Saunder company, 1978).
4. Karporich, P.V. and Sining. Wayne E. Physiology and Muscular Activity (Philadelphia: W.B. Saunder company, 1971), 7thEdn.
6. Mathew, D.K. and Fox. E.L., Physiological Basis of Physical Education and Athletics. (Philadelphia: W.B. Saunder company, 1976).
8. Morehouse, L.E and Miller, A.T. Physiology of Exercise (saint Louis: The C.V. Mosby Co. 1976). 7thEdn.

SEMESTER – III

TECHNIQUES AND TECHNICAL DEVELOPMENT: Football

COURSE CODE: BSC/CC/303E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/303E	Techniques And Technical Development: Football	3	48	30	45	75

ESSENCE OF COURSE

This course will enable the students to understand about technique and tactical training.

COURSE LEARNING OUTCOMES

After completing this course, the students will able to

- ❖ Understand the technique and evaluation.
- ❖ Understand functional training and set pieces
- ❖ Understand the style of both attacking and defending style of play.
- ❖ Develop and understand about style of play.

Unit-I

Learning Technique and Evaluation

- 1.1. Meaning and Importance of Technique in Football
- 1.2. Basic Techniques in Football(receiving, passing, Dribbling and shooting)
- 1.3. Phases of teaching technique and its application (Acquisition, Stabilization and adaptation phase)
- 1.4. Evaluation Process in learning technique (Observation, Skill test and Statistics)

Unit-II

Functional Training and Set pieces:

- 2.1. Goal keeper and Forward (Attacking and defending)
- 2.2. Defenders and Mid- fielder (Attacking and defending)
- 2.3. Free kick (Direct and indirect)
- 2.4. Corner kick and throw-in (Attacking and defending)

Unit-III

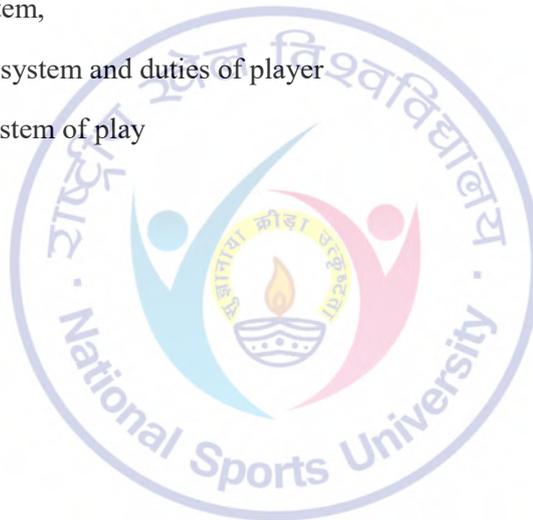
Style of play

- 3.1 development of style of play
- 3.2 attacking style of play
- 3.3 defensive style of play
- 3.4 Combination of both (attacking and defending) style of play

Unit-IV

System of Play – Development and Requirements of various System of Play

- 4.1. Development of team Formation
- 3.2. Developing of pyramid system,
- 3.3. Development of three back system and duties of player
- 3.4. Offensive and Defensive system of play



SEMESTER –III

SCIENCE OF SPORTS TRAINING AND CONDITIONING

COURSE CODE: BSC/SECC/01

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/SECC/01	Science of Sports Training and Conditioning	3	48	30	45	75

COURSE LEARNING OUTCOME

After completing this course, the students will able to

- Understand the concept, means and methods of Sport Training and Conditioning.
- Equip to formulate and design training as per the pre-requisites of training components.
- Understand the technique and tactical preparation in particular Sports/Games.
- Understand the concept of planning and periodization of pre-requisites of competition demands.

UNIT – I

Introduction & Training means and methods

- 1.1. Definition, Aim and Principles of Sports Training
- 1.2. Characteristics of Sports Training, volume, intensity, density and frequency
- 1.3. Definition, importance, Types of Overload.
- 1.4. Principles of overload, causes& characteristics of fatigue, Tackling overload

UNIT - II

Training Component

- 2.1 Strength: Types, means and methods of developing strength, scientific basis of designing strength training
- 2.2 Speed - Forms of speed, means and methods of developing speed, scientific basis of designing speed training
- 2.3 Endurance and its types, means and methods of endurance training, scientific basis of designing endurance training
- 2.4 Coordination and Flexibility and its types, means and methods of development coordination and flexibility, scientific basis of designing co-ordination and flexibility training

UNIT – III

Technique, Tactics, Strategies

- 3.1 Meaning of Technique, Tactics, and Strategies, Difference between Technique, tactics, and strategies
- 3.2 Technique and phase of technical training related to specific sport and games
- 3.3 Tactical training and strategies planning related to specific sport and games
- 3.4 Application of technique, tactics, and strategies related to specific sport and games

UNIT – IV

Planning & Periodization

- 4.1 Definition, Importance and Types of Planning
- 4.2 Principles of Planning and Steps in Formulation of Plan, scientific basis of designing planning related specific sport and games
- 4.3 Concept and types of Periodization
- 4.4 Top form and scientific basis of designing Periodization related to specific sport and games

SUGGESTED READING

1. Bompa O. Tudor and Halff G. Gregory. (2009) “Periodization Theory and Methodology of Training” Human kinetics.
2. Bompa O. Tudor, (2021) Periodization of Strength Training for Sports, Human Kinetics.
3. Bill Sweetenham and John Atkinson, (2003) Championship Swim Training, Human Kinetics.
4. Bill Ramseyer, (2011) Winning football, Human Kinetics.
5. David Joyce and Daniel Lewindon (2021) High-Performance Training for Sports, Human Kinetics.
6. Giam, C. K & The, K.C. (1994). Sport medicine exercise and fitness. Singapore: P.G.
7. Kurz Thomas and Mikolaj Zagorski (2001), Science of Sports Training, Stadion Publishing Co.,
8. Lorin A. Cartwright and William A. Pitney, (2021) Fundamentals of Athletes Training, Human Kinetics; Third edition.
9. Matvyew, L. P. (1981). Fundamental of sports training. Moscow: Progress Publishers
10. National Academy of Sports Medicine, (2014) NASM Essentials of Sports Performance Training, Jones and Bartlett Learning.
11. Singh, H. (1984). Sports training, general theory and methods. Patiala: NSNIS.
12. Uppal, A. K., (1999). Sports Training. New Delhi: Friends Publication.
13. Visual coaching pro software

SEMESTER –III

TRADITIONAL SPORTS AND GAMES

Course CODE: BSC/GE/03

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/GE/03	Traditional Sports and Games	2	32	20	30	50

Course learning outcomes:

After completing this course, the students will able to

- Know different kind of traditional sports and games
- Understand Historical development of traditional sports and games in India
- Understand importance of traditional sports and games
- Understand the social value of traditional sports and games

Unit-I

Introduction to Traditional Sports and Games

- 1.1 Need, Scope and benefits of Traditional Sports and Games in present days
- 1.2 Importance of Indian (Bharatiya) Tradition: Indian dance, music, exercise and Bharatiyama initiative
- 1.3 UNESCO: Intangible Cultural Heritage-Traditional Sports and Games (TSG)
- 1.4 International Council of Traditional Sports and Games: cultural values and activities for preservation and protection

Unit-II

Historical Development of Sports and Games

- 2.1. History of Traditional exercises, Sports and Games in ancient India and their origin.
- 2.2. Traditional exercise, Sports and Games in North East India.
- 2.3. Traditional Sports and Games in Central and South India.
- 2.4. Traditional Sports and Games in North and West India

Unit-III

Traditional Sports and Modern Olympics Sports

- 3.1. Traditional Sports and Games and its social and cultural values; Khelo India and Fit India initiative
- 3.2. Traditional Sports and Games as a tool for intercultural learning and physical literacy
- 3.3. Traditional Games as a recreational activity in active living and wellness
- 3.4. Impact of Traditional sports and games in skill enhancement of modern Olympic sports

PRACTICAL
Traditional Sports and Games
Course CODE: BSC/GE(P)/03

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/GE/(P)/03	Traditional Sports and Games	2	32	20	30	50

UNIT-I

Critical analysis of transfer of motor qualities and skill acquisition

- 1.1.Traditional exercises and sports of North East India, related to specific sports
- 1.2.Traditional exercises and sports of Central and South India, related to specific sports
- 1.3.Traditional exercises and sports of North and West India, related to specific sports
- 1.4.Traditional exercises and Sports from different parts of the World

UNIT-II

Physical fitness and sports skill acquisition through traditional sports

- 2.1. Traditional wrestling in India
- 2.2.Thang-Ta, Mukna and Kang.
- 2.3.Mallakhambh and Gatka
- 2.4. Kalaripayattu and Circle Kho-Kho, Raibansa

SUGGESTED READING:

1. www.unesco.org : Traditional Games and Sports (TSG)
2. www.tafisa.org
3. [Encyclopaedia of Traditional Games](#), Gremese International; 192nd ed. edition (1 March 1995)
4. [Traditional Games, Sports Publication \(1 December 2015\)](#)
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8. KonjengbamBiren Singh, Meitei HuyenLanlong, Manipur State Kala Academy, 1985.
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10. <https://www.keralatourism.org/kalaripayattu/origin>
11. <https://gatkaa.com>
12. <https://themanipurpage.tripod.com/culture/thangta.html>
13. blog.globalindianschool.org
14. www.sportanddev.org
15. www.chaseyoursport.com

SEMESTER – III

GENERAL CONDITIONING AND PERFORMANCE – III: Football

COURSE CODE: BSC/CCP/ 304E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CCP/304E	General Conditioning and Performance – III: Football	4	128	50	50	100

Learning Objectives:

- To develop general and specific fitness
- To developed their upper body strength
- To Know about the circuit training
- To learn how to conduct fitness class

UNIT-I

Basic and advance coordination exercises

- 1.1. Hand eye and leg eye coordination drills
- 1.2. Multi-directional forms of sprinting, jumping and skipping
- 1.3. Obstacle running (place hurdles directly on floor and have athlete run over them), K band jump training,
- 1.4. Jump rope and target exercises, Plyometric agility hurdles, box jumps, Vertimax agility training

UNIT-II

Circuit training

- 2.1 Strength (lower body)
- 2.2 Speed
- 2.3 Agility
- 2.4 Combination of all

UNIT-III

Flexibility exercise

- 3.1 Figure four stretch
- 3.2 Lying squad stretch
- 3.3 Sphinx pose
- 3.4 Frog stress

UNIT-IV

Sports specialization performance test.

4.1 2.4 km run

4.2 Sit and reach test

4.3 Beep test, Medicine ball throw

4.4. Organizing and conducting fitness class

Evaluation Total Mark 100

Evaluation criteria	Internal Assessment	External Assessment
General and specific Warming up and fitness class	15Marks	15Marks
Physical Fitness test All the fitness components	20 Marks	20 Marks
Sports Performance	15 marks	15 marks
Total	50 Marks	50 Marks

Semester – III

PRACTICAL: Football

COURSE CODE: BSC/CCP/ 305E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CCP/305E	Practical: Football	6	192	75	75	150

Course Learning Objectives:

- Practice and learning of feinting skill and application to game
- Practice and learning of kicking skill and application to game
- Practice and learning of Goalkeeping skill and application to game
- Practice and learning of shooting skill and application to game

Feinting

- 1.1 Shoulder drop
- 1.2 Step over and lane change
- 1.3 Drag back
- 1.4 Interception

UNIT-I

Unit-II

kicking

- 2.1. Chip
- 2.2. Half volley
- 2.3. Side volley
- 2.4. Over head kick

UNIT-III

Goalkeeping technique

- 3.1 Stances in various possessions
- 3.2 Scoop
- 3.3 kneeling
- 3.4 The 'W,

UNIT -IV

Possession and shooting

- 4.1. Ball possession 3v1, 5v2,(in different grid)
- 4.2. Ball possession ,3v3 +1 neutral,5v5 +1 neutral, 11v11.
- 4.3. Small sided games
- 4.4. Passing and shooting

Evaluation Total Mark 150

Evaluation criteria	Internal Assessment	External Assessment
Dribble and feinting	10Marks	10Marks
Tackling, interception of ball	20 marks	20 marks
Goalkeeping technique	20 Marks	20 Marks
Passing and shooting	15 Marks	15 Marks
Possession game	10marks	10 marks
Total	75 Marks	75 Marks

SEMESTER –IV

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
THEORY						
BSC/CC/401	Applied Sports Psychology	2	32	20	30	50
BSC/CC/402	Sports Medicine	3	48	30	45	75
BSC/CC/403E	Tactics , Strategies , and Tactical Development: Football	3	48	30	45	75
BSC/SECC/02	Kinanthropometry and Talent development in Sports	2	32	20	30	50
BSC/GE/04	Adapted Sports Education	2	32	20	30	50
LAB PRACTICAL						
BSC/CC(P)/401	Applied Sport Psychology	1	32	10	15	25
BSC/CC(P)/402	Sports Medicine	1	32	10	15	25
BSC/GE(P)/04	Adapted Sports Education	1	32	10	15	25
SPORTS PRACTICAL						
BSC/CCP/404E	General Conditioning and Performance – IV: Football	4	128	50	50	100
BSC/CCP/405E	Practical: Football	6	192	75	75	150
TOTAL		25	608	275	350	625

NSS is compulsory for all students in second year.

NB: CC= Core Course, AECC=Ability Enhancement compulsory course,DSC= Discipline Specific Course, GE=Generic Elective, SECC= Skill Enhancement core course, CCP= Core course practical

SEMESTER –IV

APPLIED SPORTS PSYCHOLOGY

COURSE CODE: BSC/CC/401

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/401	Applied Sports Psychology	2	32	20	30	50

LEARNING OBJECTIVE:

After completing this course, the students will able to

- Understand how to enhance psychological skills in sport and physical activity.
- Know how to develop mental skills in sports
- How to use sports and physical activity to enhance well-being of athletes

UNIT-I

Enhancing Psychological Skills

- 1.1. Introduction to mental training: Psychological factors and performance excellence, developing mental skills.
- 1.2. Goal Setting: Effective goals, developing athlete's goal setting skills
- 1.3. Imagery and Self-Talk: Using imagery effectively, developing imagery training program, developing athletes' smart-talk skills.
- 1.4. Concept of Biofeedback, uses and importance in Sports.

UNIT-II

Developing Mental Skills

- 2.1 Motivation: Needs and intrinsic motivation, creating mastery-oriented motivational atmosphere.
- 2.2 Attention and Self-Confidence: Attentional capacity, selective attention, implementing attentional skills program.
- 2.3 Stress Management: Understanding stress, stress management techniques, developing athletes' stress management skills.
- 2.4 Energy Management: understanding energy management, determining optimal energy zone, developing athletes' energy management skills.

UNIT-III

Enhancing Health and Well-Being

- 3.1 Physical activity and well-being: Exercise adherence, social-cognitive perspectives of perceived and sustained efforts.
- 3.2 Burnout in Sports: Burnout dropout, overtraining and staleness, monitoring burnout in athletes
- 3.3 Physical activity and quality of life: Meaning of Quality of life, Effect of physical activity and sports on quality of life.
- 3.4 Injury and Psychology: Stress and injury, role of sports psychology in injury rehabilitation.

PRACTICAL

Applied Sports Psychology

Course Code: BSC/CC(P)/401

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC(P)/401	Applied Sports Psychology	1	32	10	15	25

UNIT-I

- 1.1 Assessment and development of Motivation and integration of motivation training in relation to specific sports coaching
- 1.2 Goal Setting: integration of goal setting training in relation to specific sports coaching
- 1.3 Stress Management, Relaxation Procedures, Biofeedback Training in relation to specific sports
- 1.4 Developing Schedule of Psychological Skill Training (PST) Programme in relation to specific sports

UNIT-II

- 2.1 Relaxation Procedures – Progressive Relaxation – Autogenic Training, Transcendental Meditation.
- 2.2 Activation Techniques (Imagery, VMBR, HYPNOTHERAPY)
- 2.3 Cognitive Strategies: Imagery, Thought Stopping and Centering,
- 2.4 Development of verbal and non-verbal communications skill between athlete and coach

SUGGESTED READING

1. Andersen, M. B. (Ed.). (2005). Sports psychology in practice. Human Kinetics.
2. Anshel, M.H.(2002). Sport Psychology: From Theory to Practice. Scottsdale, AZ: Gorsuch Scarbrick.
3. Blumenstein, B., Bar-Eli, M., & Tenenbaum, G. (Eds.) (2002). Brain and body in sport and exercise: Biofeedback applications in performance enhancement. Wiley Publishing, Inc.
4. Burton, Damon, Thomas D. Raedeke (2008) Sport Psychology for Coaches Human Kinetics Publishers, Champaign Illinois.
5. Burton, D., & Raedeke, T. (2008). Introduction to mental skills training. Sport psychology for coaches. Human Kinetics.
6. Cox, Richard H (2006) Sport Psychology Concept and Application, 3rd ed Wm.C. Brown Publishers.
7. Horn, Thelma (2008) Advances in Sport Psychology Human Kinetics Publishers, Inc Champaign IL.
8. Kamlesh, M.L. (2001) Psychology in Physical Education and Sport, 3rd ed. Metropolitan Book Co.Pvt.Ltd Delhi.
9. Tenenbaum, Gershon (2001) The Practice of Sport Psychology Fitness Information Technology, INC, US
10. Weinberg, R. S., & Gould, D. (2015). Foundations of Sport and Exercise Psychology (6th ed.). Human Kinetics.
11. Weinberg, R.S & Gould, Daniel (2012) Foundations of Sport and Exercise Psychology Human Kinetics Publishers, Inc Champaign IL.
12. Williams, J.M., & Krane, V. (2014). Applied Sport Psychology: From Personal Growth to Peak Performance (7th ed.). McGraw-Hill.

SEMESTER –IV
SPORTS MEDICINE
COURSE CODE BSC/CC/402

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/402	Sports Medicine	3	48	30	45	75

COURSE LEARNING OUTCOME

After completing this course, the students will able to

- Understand history, scope and importance of sports medicine.
- Understand sports injuries related to skin, muscles, tendons, ligaments, cartilage and bones.
- Understand tissue respond to stress and different types of wound healing.
- Understand ill effect of different drugs and doping.

COURSE CONTENTS

UNIT - I

Introduction to Sports Medicine

- 1.1 History of Sports Medicine in India and Abroad
- 1.2 Definition, aims and objectives of Sports Medicine
- 1.3 Scope, Need and Importance of Sports Medicine in sports
- 1.4 Classification of sports Injuries, differences between acute and chronic injuries.

UNIT - II

Injuries in Sports

- 2.1 Skin and Muscles Injuries (blisters, corns, abrasions, bruises, burns, cuts and lacerations, muscles strain and ruptures)
- 2.2 Tendons Ligaments, Cartilage, bursa and bone Injuries
- 2.3 Common site-specific injuries in sports Common regional injuries and their management (Head & Neck, Face, Thorax, Abdomen, Pelvis, Upper Limbs and Lower Limbs (shoulder, elbow, Wrist, hip, knee and Ankle joints).

UNIT – III

Injury and Tissue Response

- 3.1 Micro and Macro trauma
- 3.2 Over use Trauma
- 3.3 Tissue response to stress
- 3.4 Different steps in wound healing

UNIT – IV

Doping in Sports

- 4.1 Ergogenic aids in Sports
- 4.2 National and International Anti-doping organization and their role
- 4.3 Classification and types of drugs banned by WADA, Side effects of drugs
- 4.4 Blood doping, Types of Blood Doping

PRACTICAL

Sports Medicine

Course CODE: BSC/CC(P)/402

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC(P)/402	Sports Medicine	1	32	10	15	25

UNIT-I

- 1.1. Demonstrate how to set up an individual on a program for injury prevention or general fitness enhancement.
- 1.2. Describe and demonstrate the proper fit, care, and usage of sports protective equipment.
- 1.3. Common Rehabilitation exercises used in sports injury.
- 1.4. Strengthening and stretching of major muscles

UNIT-II

- 2.1. Arrangement of special lecturer on anti-doping rules
- 2.2. Demonstration and explanation of sample collection kit and procedure of sample collection
- 2.3. Explanation of Players form fill up procedure and checking shield equipment by an expert
- 2.4. Maintaining a practical record book

SUGGESTED READING

1. Andrew Pallas Beating Sports Injuries Mitchell Beazley (London) 2003.
2. Conley, M. (2000). Bioenergetics of exercise training. In T.R. Baechle, & R.W. Earle, (Eds.), Essentials of Strength Training and Conditioning (pp. 73-90). Champaign, IL: Human Kinetics.
3. David, R. M. (2005). Drugs in sports, (4th Ed). Routledge Taylor and Francis Group.
4. Ellis and Henderson Running Injury Free Rodal Press (Pennsylvania) 1994
5. Garick Webb Sports Injuries Diagnosis and Management W.B. Saunders Co. (London) 1990.
6. Jeyaprakash, C. S., Sports Medicine, J.P. Brothers Pub., New Delhi, 2003.
7. Khanna, G. L., (1990). Exercise physiology & sports medicine. Delhi: Lucky Enterprises. Mathew, D. K. & Fox, E. L, (1971). Physiological basis of physical education and athletics. Philadelphia: W.B. Saunders Co.
8. M.A. Hutson Sports Injuries Oxford University Press (New York) 1996.
9. Marcia K. Anderson and Malissa Martin Quick Reference Guide for Sports Injury Management Williams & Wilkins (London) 1998.
10. Martha Freeman Sonners Spinal Cord Injury Prentice Hall (New Jersey) 1992.
11. P.L. Karad Prevention and Treatment of Sports Injuries Khel Sahitya Kendra (New Delhi) 2011.
12. Pandey, P. K., (1987). Outline of sports medicine, New Delhi: J.P. Brothers Pub. Williams, J. G. P. (1962). Sports medicine. London: Edward Arnold Ltd.
13. Paul N. Taylor and Diane K. Taylor Conquering Athletic Injuries Human Kinetics (Canada) 1988.
14. Philip J. Morone Shoulder Injuries in Sports Aspen Publishers Inc. (London) 1992.
15. Robert Gunzburg and Marek Szpalski Whiplash Injuries Lippincott Williams & Wilkins (New York) 1998.
16. Terry R. Malone Throwing Injuries Williams & Wilkin

SEMESTER –IV

TACTICS, STRATEGIES AND TACTICAL DEVELOPMENT: Football

COURSE CODE: BSC/CC/403E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/403E	Tactics, Strategies and Tactical Development: Football	3	48	30	45	75

ESSENCE OF COURSE

This course enables the students to understand about the tactics, strategy and tactical development in football. Its aims to develop understanding about tactical planning of football. The students will understand principles of tactical play, means methods of tactical training and concept of total football.

COURSE LEARNING OUTCOMES

After completing this course, the students will able to

- Planning of football training.
- Understand the types of tactics and strategy.
- Understands the principles of tactical play.
- Understands means and methods of tactical training, importance of small sided game and concept of total football.
- Understands about total football and team behind team.

Unit-I

Tactics and Strategies

- 1.1. Definition, meaning and classification of tactics and Strategies
- 1.2. Individual Tactics (Attacking and defending)
- 1.3. Group Tactics (Attacking and defending)
- 1.4. Team Tactics (Attacking and defending)

Unit-II

Planning of Training for Football

2.1. Annual Training Plan for Football Players (Single, Double and Multiple)

2.2. Pre-Meal and, fuel during competition

2.3. Training Load

2.4. Pre season, during and post season

Unit-III

Tactical Play and Tactical Training

3.1. Principles of Attacking

3.2 Principles of defending

3.3 Means and methods of Tactical training

3.4 Special Tactics with External Factors (Ground Condition, Size of the Field and Weather Condition)

Unit-IV

Concept of Total Football & Technical's behind Team

4.1. History of Total Football

4.2. Concept of total Football

4.3. Small Sided & Area Game (SSG/SSAG)

4.4. Team behind Team



SEMESTER –IV

KINANTHROPOMETRY AND TALENT DEVELOPMENT IN SPORTS

COURSE CODE: BSC/SECC/02

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/SECC/02	Kinanthropometry and Talent Development in Sports	2	32	20	30	50

COURSE LEARNING OUTCOME:

After completing this course, the students will be able to

- Understand the concept and techniques of Anthropometry and Kinanthropometry.
- Understand Anthropometry profiling and evaluation.
- Understand the talent identification.

COURSE CONTENTS

UNIT – I

Anthropometry and Kinanthropometry

- 1.1 Introduction of Anthropometry and Kinanthropometry and its importance in sports
- 1.2 Basic Anthropometric tools, measurements and landmarks, Applications of Kinanthropometry in sports.
- 1.3 Somatotypes/Body Types/Body Physique and its relevance in sports, Body composition and its importance in sports.
- 1.4 Human Growth and Development.

UNIT – II

Anthropometric Profiling and Evaluation

- 1.1 Assessment technique of Somatotyping / Body typing.
- 1.2 Assessment technique of Body composition.
- 1.3 Assessment technique of Skeletal Diameter (Body Breadth) and Body Girth (Body Circumference).
- 1.4 Evaluation of Body composition by BIA (Bio Impedance Analysis) Instrument.

UNIT – III

Sports Talent Identification and development

- 3.1 Need and Importance of Talent Identification
- 3.2 Principles of talent identification and development
- 3.3 Talent Identification in relevant Sports, Long Term Athlete Development
- 3.4 Global scenario of talent identification, selection and development in relevant sports

SUGGESTED READING

1. Singh S.P.S. and Malhotra P (2003). *Anthropometry*. Human Biology Department. Punjabi University. Patiala-147 002 (India).
2. Pheasant, S. (1996). *Body space: anthropometry, ergonomics and design of work*. Taylor & Francis, New York.
3. Sodhi, H.S., & Sidhu, L.S. (1984). *Physique and selection of sports- a kinanthropometric study*. Patiala: Punjab Publishing House.



SEMESTER – IV

ADAPTED SPORTS EDUCATION

COURSE CODE: BSC/GE/04

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/GE/04	Adapted Sports Education	2	32	20	30	50

COURSE LEARNING OUTCOME

After completing this course, the students will be able to

- Understand the modern concept of adapted sports education.
- Understand classification of differently abled people.
- Understand adapted Sports education programme.

COURSE CONTENTS

UNIT-I

Introduction to adapted sports education

- 1.1 Meaning, aim and objectives of adapted sports education
- 1.2 Brief historical review of adapted sports education
- 1.3 Need and importance of adapted sports education
- 1.4 Role of sports education in adapted sports education

UNIT-II

Classification of differently able people

- 2.1 Changing concept of differently able people.
- 2.2 Physically challenged, mentally challenged, Speech and Hearingchallenged and visually challenged.
- 2.3 Other Differently able Condition problems, Behavioral Problems-Adjustment Problem, learning disabilities, Emotional Problem.
- 2.4 Social Problem -Social Determination, Social Rejection

UNIT-III

Adapted Sports Education Programme

- 3.1. Guiding Principles for Adapted Sports Education Programme
- 3.2. Sports Programme for differently able students (Divyangjan)
- 3.3. Co-Curricular activities for differently ablestudents (Divyangjan)
- 3.4. Aquatic activity programmes for differently able; Rehabilitative role &importance of aquatic activity

PRACTICAL
Adapted Sports Education
Course Code: BSC/GE(P)/04

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/GE(P)/04	Adapted Sports Education	1	32	10	15	25

Unit – I

Introduction of Specific Programmes for especially abled Child

- 1.1. Adapted Exercise programme for visual impaired.
- 1.2. Adapted Exercise programme for hearing impaired.
- 1.3. Adapted Exercise programme for the people with upper body locomotor problem.
- 1.4. Adapted Exercise programme for the people with lower body locomotor problem.

Unit – II

Introduction of Adapted Sports and its event

- 2.1 Adapted Sports and its events programme for visual impaired.
- 2.2 Adapted Sports and its events programme for hearing impaired.
- 2.3 Adapted Sports and its events programme for the people with upper body locomotor problem.
- 2.4 Adapted Sports and its events programme for the people with lower body locomotor problem.

SUGGESTED READINGS

1. Anoop Jain, “Adapted Physical Education” Sports Publications, Ashok Vihar Delhi-52
2. Arthur G. Miller & James, “Teaching Physical Activities to impaired youth” John Wilag& Sons Inc. Canada.
4. Arthur S. Daniels & Euilya, “Adapted Physical Education”, Harpet& Row Publisher- New York.
5. Auxter, Byler, Howtting, “Adapted Physical Education and reactions” Morbey-St. Louis Missouri.
6. K. Park, “Preventive Social Medicine M/s BanaridasBhanot Publishers Prem Nagar Jabalpur. Ronald W. French, & Paul J., “Special Physical Education”, Charles E. Merrics Publishing Co.Edinburgh, Ohio.
7. Shekar KC, Adapted Physical Education(KhelSahitya Kendra: New Delhi)-2005
8. Winnick JP, Adapted Physical Education and sport Human Kinetics USA, 2005
9. Uppal, A. K. (1990). Physical fitness: how to develop. New Delhi: Friends Publication.

Semester – IV
GENERAL CONDITIONING AND PERFORMANCE – IV: Football
COURSE CODE: BSC/CCP/404E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CCP/404E	General Conditioning and Performance – IV: Football	4	128	50	50	100

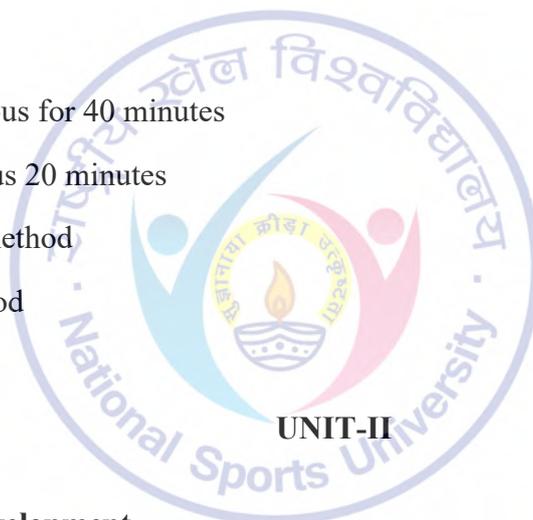
Objectives:

- To develop the endurance
- To get proper knowledge of explosive strength development
- To Know proper knowledge about flexibility
- To learn how to conduct fitness class

UNIT-I

Endurance work out

- 1.1 Slow continuous for 40 minutes
- 1.2 Fast continuous 20 minutes
- 1.3 Varied pace method
- 1.4 Fartlake method



UNIT-II

Advance explosive strength development

- 2.1. Weighted dynamic step up exercises and training
- 2.2. Plyometric
- 2.3. Weight training with higher velocity
- 2.4 Variable Resistance training (Bands and chains), Ballistic exercises

UNIT-III

Flexibility exercise

- 3.1 Static flexibility training
- 3.2 Dynamic flexibility training
- 3.3 Balastic stretching
- 3.4 PNF stretching

UNIT-IV

Sports performance test.

4.1 yoyo test

4.2 sit and reach test

4.3 T-test

4.4 1RM

Evaluation Total Mark 100

Evaluation criteria	Internal Assessment	External Assessment
General and specific Warming up	10Marks	10Marks
Physical Fitness test All the fitness components	20 Marks	20 Marks
Sports Performance	20 marks	20 marks
Total	50 Marks	50 Marks

Semester – IV

PRACTICAL: Football

COURSE CODE: BSC/CCP/405E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CCP/405E	Practical: Football	6	192	75	75	150

Learning Objectives:

- Learning and practice of attacking technique, its application in game situations
- Learning principle of defending and its application in game
- Learning and practice of advance goalkeeping skill
- Learning and practice of set play

Principles of attacking

- 1.1 Penetration
- 1.2 support
- 1.3 Create space
- 1.4 Improvisation and Mobility

Principles of defending

- 2.1.Delay, Cover
- 2.2.Balance
- 2.3.Concentration
- 2.4Control and restrain

Advance goal keeping technique

- 3.1.diving
- 3.2.deflection
- 3.3.boxing
- 3.4.cross ball

Set play (attacking and defending)

- 4.1.kick- off
- 4.2.goal kick
- 4.3.throw-in
- 4.4.penalty kick



Unit-I

Unit -II

Unit -III

Unit- IV

Evaluation Total Mark 150

Evaluation criteria	Internal Assessment	External Assessment
Goalkeeping	20Marks	20Marks
Set play(attacking and defending)	25 marks	25 marks
Principles of attacking	15 Marks	15 Marks
Principles of defending	15 Marks	15 Marks
Total	75 Marks	75 Marks



SEMESTER – V

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
THEORY						
BSC/CC/501	Sports Physiotherapy and Rehabilitation	2	32	20	30	50
BSC/CC/502	Sports Nutrition	2	32	20	30	50
BSC/CC/503	Research Method and Statistics in Sports	3	48	30	45	75
BSC/DSC/01	Sports Event Management	2	32	20	30	50
BSC/DSC/02E	Specific Motor Qualities of Sports and Games: Football	3	48	30	45	75
LAB PRACTICAL						
BSC/CC(P)/501	Sports Physiotherapy and Rehabilitation	1	32	10	15	25
BSC/CC(P)/502	Sports Nutrition	1	32	10	15	25
BSC/DSC(P)/02E	Specific Motor Qualities of Sports and Games: Football	1	32	10	15	25
SPORTS PRACTICAL						
BSC/CCP/504E	Age Group Sports Training: Football	4	128	50	50	100
BSC/CCP/505E	Practical: Football	6	192	75	75	150
TOTAL		25	608	275	350	625

NB: CC= Core Course, AECC=Ability Enhancement compulsory course,DSC= Discipline Specific Course, GE=Generic Elective, SECC= Skill Enhancement core course, CCP=Core course practical

SEMESTER –V

SPORTS PHYSIOTHERAPY AND REHABILITATION

COURSE CODE: BSC/CC/501

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/501	Sports Physiotherapy and Rehabilitation	2	32	20	30	50

COURSE LEARNING OUTCOMES

After completing this course, the students will be able to

- Understand the Meaning, definition and importance of physiotherapy and therapeutic exercises
- Understand various types of therapeutic modalities
- Understanding the need and importance of rehabilitation and recovery.

COURSE CONTENTS

UNIT-I

Introduction to Physiotherapy

- 1.1 Definition, meaning and Importance of Physiotherapy
- 1.2 Definitions of Therapeutic exercise, Classification, Effects and uses of different types of exercise.
- 1.3 Stretching- types of stretching, Passive Movements (Relaxed, Forced and passive - stretching) Active movements.
- 1.4 Strengthening Exercises, therapeutic means and methods of strengthening exercises

UNIT-II

Therapeutic Modalities

- 2.1 Definition of Hydrotherapy, Different forms of Hydrotherapy: Whirlpool, Contrast bath, (Indications & Contra-indications of each modality).
- 2.2 Thermotherapy – Hydrocollator Pack and Cryo-Therapy: Cold Packs, Cryo-Compression, Cryokinetics
- 2.3 Electrotherapy – Infrared rays – Ultraviolet rays – short wave diathermy – ultrasonic rays. IFT (interferential therapy) Brief Concept of electrical muscle stimulator, Paraffin wax and LASER therapy.
- 2.4 Manual Therapy and Massage

UNIT-III

Sports Rehabilitation and Recovery

- 3.1 Definition concept & approach in athletic rehabilitation.
- 3.2 Principles of Rehabilitation
- 3.3 Phases of Athletic Rehabilitation, Role of Coaches in Athlete's Care and Rehabilitation
- 3.4. Medico biological means of recovery, Ice Bath, steam bath, Sauna bath, whirlpool bath

PRACTICAL

SPORTS PHYSIOTHERAPY AND REHABILITATION

Course CODE: BSC/CC(P)/501

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC(P)/501	Sports Physiotherapy and Rehabilitation	1	32	10	15	25

UNIT-I

- 1.1. Relaxed, Forced and passive – stretching therapeutic exercises, PNF stretching
- 1.2. Strengthening Exercise (Isometric and Isotonic)
- 1.3. learn acute injury management
- 1.4. Relaxation techniques

UNIT-II

- 2.1 Operation of steam, sauna and whirlpool bath
- 2.2. Knowledge of operating instruments like IFT, Ultrasound, long and short-wave diathermy
- 2.3 Application of paraffin bath, Cryotherapy, compression bandaging, use of Kinesiotape
- 2.4 Massage technique

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1. Armstrong and Tucker, Injuries in sports (London: Staples press, 1964).
2. Christine, M. D., (1999). Physiology of sports and exercise. USA: Human Kinetics.
3. Conley, M. (2000). Bioenergetics of exercise training. In T.R. Baechle, & R.W. Earle, (Eds.), Essentials of Strength Training and Conditioning (pp. 73-90). Champaign, IL: Human Kinetics.
4. David, R. M. (2005). Drugs in sports, (4th Ed). Routledge Taylor and Francis Group.
5. Hunter, M. D. (1979). A dictionary for physical educators. In H. M. Borrow & R. McGee, (Eds.), A Practical approach to measurement in Physical Education (pp. 573-74). Philadelphia: Lea &Febiger.
6. Jeyaprakash, C. S., Sports Medicine, J.P. Brothers Pub., New Delhi, 2003.
7. Khanna, G. L., (1990). Exercise physiology & sports medicine. Delhi: Lucky Enterprises.
8. Mathew, D. K. & Fox, E. L, (1971). Physiological basis of physical education and athletics. Philadelphia: W.B. Saunders Co.
9. Pandey, P. K., (1987). Outline of sports medicine, New Delhi: J.P. Brothers Pub.
10. Ray, Steven and Irvin Richard, Sports Medicine. (New Jersey: Englewood cliffa, Prentice Hall, 1983).
11. Williams, J. G. P. (1962). Sports medicine. London: Edward Arnold Ltd.



SEMESTER –V

SPORTS NUTRITION

COURSE CODE: BSC/CC/502

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/502	Sports Nutrition	2	32	20	30	50

COURSE LEARNING OUTCOMES

After completing this course, the students will able to

- Understand Meaning, Definition, Aims and Objectives of Sports Nutrition, Mal nutrition and Balanced diet.
- Understand nutritional requirement of Sports person
- Concept of fluid and electrolyte replacement, values of vitamins and minerals, carbohydrate loading according to the requirement of sports

UNIT – I

Introduction to Nutrition

- 1.1 Meaning, Definition, Aims and Objectives of Sports Nutrition
- 1.2 Essentials of Nutrition, Carbohydrate-Protein-Fat-Vitamin-Minerals
- 1.3 Balance Diet and Nutritive values of food
- 1.4 Malnutrition and imbalance of nutrition

UNIT – II

Nutritional Requirement of Sports Person

- 2.1 Essential Dietary requirements of Sports persons.
- 2.2 Planning of athletic diets for different categories of sports
- 2.3 School students-College men and women, Team Sport-Athletics
- 2.4 Pre-game Meal, Obesity, Weight Control, Crash dieting and Eating Disorders, Bulimia, Anorexia Nervosa, Binge Eating

UNIT – III

Carbohydrate Loading and Metabolism

- 3.1 Metabolism, Hydration in Athlete
- 3.2 Food Safety –Factors Affecting Nutrition, Energy – BMR, RDA, Weight and Body Composition of Athletes
- 3.3 Diet during Sports competition for endurance athletes, carbohydrate loading, supplement to the daily diet,
- 3.4 Vitamins & Minerals, Fluids and electrolyte replacement, Calcium and iron supplementation

PRACTICAL

Sports Nutrition

Course CODE: BSC/CC(P)/502

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC(P)/502	Sports Nutrition	1	32	10	15	25

UNIT-I

- 1.1. Preparation of a Balanced Diet chart.
- 1.2 Obesity (Height, Weight Ratio), Body Mass Index and Calculation of Body Fat Percentage, planning of weight reduction in combat sports.
- 1.3. Nutritional assessment for Athletes and planning for nutrition for athletes.
- 1.4. Assessment of Eating Disorders.

UNIT-II

- 2.1. Designing a diet plan for different level of players and elite athletes.
- 2.1. Assessment of Hydration of athletes and planning of hydration strategies.
- 2.3 Assessment of hemoglobin deficiency and diet of athletes.
- 2.4. Designing carbohydrate loading plan for endurance sports person.

SUGGESTED READING

1. Benardot Dan, Advanced sports Nutrition, Human Kinetics, 2020.
2. Fink Heather Hedrick, JSports Nutrition, A Practical approach, Jones and Bartlett Learning, 6th ed
3. 2020.
4. Jeukendrup Asker, Sports Nutrition, Human Kinetics, 2018.
5. Karpinski Christina and A. Rosenbloom Christine, Sports Nutrition: A hand book of Professionals, Academy of Nutrition and Dietetics, 2017.
6. Mizera Justyna and Krzysztof mizera, Sports Nutrition: Eat smart, Be healthy Get on top of your game, Velo press, 2019.
7. Stull, G. A. and Cureton, T.K. Encyclopedia of Physical Education, Fitness and Sports-Training Environment, Nutrition and Fitness, Brighton Publishing Co. Saltlake City, 1980.
8. Wolliam D Mcardle, Sports, Exercise and Nutrition, LWW, 2019.

SEMESTER –V
RESEARCH METHOD AND STATISTICS IN SPORTS
COURSE CODE: BSC/CC/503

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/503	Research Method and Statistics in Sports	3	48	30	45	75

COURSE LEARNING OUTCOME

After completing this course, the students will be able to

- Understand types, nature, scope of Research
- Understand the classification of research and the research process.
- Identify various sources of information for literature review and data collection.
- Understand statistics and its application in sports research

UNIT-I

Introduction to Research

- 1.1 Meaning, definition and types of Research.
- 1.2 Characteristics of Good Research, Nature and Scope of Research in Sports.
- 1.3 Classification of Research, Location and identifying of research Problem, Criteria for Selecting a research Problem
- 1.4 Understand Research Format, chapters and writing synopsis

UNIT-II

Methods of Research

- 2.1 Descriptive Methods of Research: Survey and Case study, interview and questionnaire
- 2.2 Historical Research: Steps in Historical Research, Sources of Primary and Secondary Data, Internal and External Criticism.
- 2.3 Experimental Research – Meaning, Nature and Importance, Meaning of Variable, Types of Variables, Research Design.
- 2.4 Purpose of literature review, presenting the research hypothesis, Limitation, delimitation and significance of studies

UNIT-III

Introduction to Statistics-I

- 3.1 Meaning, Definition and Importance of Statistics in sports.
- 3.2 Quantitative and qualitative Data, tools and techniques of data collecting, population and sample
- 3.3 Class interval, Raw data, group and ungroup data, Construction of Table, Introduction to Graphic Techniques (Histogram, Bar chart and pie-diagram)
- 3.4 Measure of Central tendency, Calculation of Mean, Median & Mode

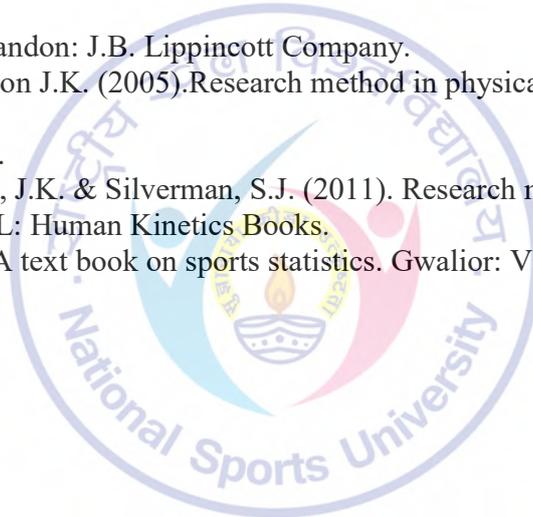
UNIT-IV

Introduction to Statistics-II

- 3.1 Normal Curve, skewness and kurtosis
- 3.2 Measure of Dispersion (Standard Deviation, Mean Deviation, Quartile Deviation)
- 3.3 Method of Calculation of Correlation
- 3.4 Types of t-test, interpreting t, relationship of t and r.

SUGGESTED READINGS

1. Best, J.W. (1963). Research in education. U.S.A.: Prentice Hall.
2. Clark, H. H., & Clark, D. H. (1975). Research process in physical education. Englewood cliffs, New Jersey: Prentice Hall, Inc.
3. Garrett, H.E. (1981). Statistics in psychology and education. New York: VakilsFeffer and Simon Ltd.
4. Oyster, C. K., Hanten, W. P., & Llorens, L. A. (1987). Introduction to research: A guide for the health science professional. Landon: J.B. Lippincott Company.
4. Thomas, J.R., & Nelson J.K. (2005). Research method in physical activity. U.S.A: Champaign, IL: Human Kinetics Books.
5. Thomas, J.R., Nelson, J.K. & Silverman, S.J. (2011). Research method in physical activity. U.S.A: Champaign, IL: Human Kinetics Books.
6. U.S.A: Champaign, IL: Human Kinetics Books.
7. Verma, J. P. (2000). A text book on sports statistics. Gwalior: Venus Publications.



SEMESTER –V
SPORTS EVENT MANAGEMENT
COURSE CODE: BSC/DSC/01

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/DSC/01	Sports Event Management	2	32	20	30	50

COURSE LEARNING OUTCOMES

After completing this course, the students will be able to

- Identify various types of contemporary sporting events and role of event manager and staffs
- Understand budget, sponsorship and marketing system of event management
- Understand pre and post event evaluation, Risk Management and negligence

COURSE CONTENT:

UNIT-I

Introduction

- 1.1. Understanding Sport Facilities/ Planning, Importance of Sports Event Management
- 1.2. Different types of sports events
- 1.3. Event Planning Sequence, Opening and Closing ceremony
- 1.4. Event manager and role of management staffs and different committee

UNIT-II

Budgeting, Sponsorship and Marketing

- 2.1 Sports event budget, Planning and preparation of budget, Event Cost Estimate
- 2.2 Sponsorship, advertisement
- 2.3 Marketing strategies and Event Marketing
- 2.4 Media role and promotion

UNIT-III

Event Management and Negligence:

- 3.1 Sports Venue location and selection and facilities
- 3.2 Event and Game Day Management, Risk Management and negligence
- 3.3 Services and Logistics, Pre Event and Post event evaluation, evaluation of managing staffs
- 3.4 Crowded Management

Suggested Reading:

1. Guy Masterman, Strategic Sports Event Management: Third edition 3rd Edition, Routledge Edition, 2016.
2. Guy Masterman, Innovative Marketing Communications: Strategies for the Events Industry (Masterman & Wood, 2006)
3. Jordan Leslie-Ann, Sports Event Management: The Caribbean Experience (New Directions in Tourism Analysis) Routledge, 2010.
4. Stedman Graham the Ultimate Guide to Sport Event Management and Marketing, McGraw-Hill Education (19 January 1995)



SEMESTER –V
SPECIFIC MOTOR QUALITIES OF SPORTS AND GAMES: Football
COURSE CODE: BSC/DSC/02E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/DSC/02E	Specific Motor Qualities of Sports and Games: Football	3	48	30	45	75

ESSENCE OF COURSE

This course will enable students to understand the functional training and motor abilities. Its aim to develop understanding about the training and rehabilitation, special features of women training.

COURSE LEARNING OUTCOMES

After completing this course, the students will able to

- Understand the motor abilities for higher performance.
- Understand the rehabilitation.
- Understand the philosophy of coaching.
- Understand the special features of women training.

Unit-1

Motor abilities for soccer players

- 1.1. Endurance for soccer players
- 1.2. Strength for soccer players
- 1.3. Speed training for soccer players
- 1.4. Agility and flexibility for soccer players

Unit-2

Motor Abilities and factors for higher performance

- 2.1. Development of General and Specific motor ability
- 2.2. Evaluation of motor abilities
- 2.3. Maintenance of player condition for required period
- 2.4. Performance factors for higher performance

Unit-3

3.Recovery and Rehabilitation

- 3.1. Means and Recovery
- 3.2. Rehabilitation for Injured Players
- 3.3. Injury prevention
- 3.4. Hygiene and prevention of Players

Unit-4

4. Special Features of Women Training

- 4.1. Anatomical Difference
- 4.2. Physiological Difference
- 1.3.Psychological Difference
- 4.4Training Implication



Semester – V

PRACTICAL

Specific Motor Qualities of Sports and Games: Football

COURSE CODE: BSC/DSC(P)/02E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/DSC(P)/02E	Specific Motor Qualities of Sports and Games: Football	1	32	10	15	25

UNIT-I

- 1.1.Administration of strength test
- 1.2.Cardiovascular endurance test
- 1.3.Flexibility test
- 1.4.Speed test

UNIT-II

- 2.1 Coordination test
- 2.2. Balance test
- 2.3 Reaction time test
- 2.4Agility test

Suggested Reading:

1. Bota,C,.Prodescu,B, (1997).Physiology physical education and sports - ErgophysiologyRm., Antim Ivireanul Publishing House,-Valcea.
2. Demeter,A, (1981). Physiological and biochemical bases of motor qualities, Sport – Tourism Publishing House, Bucharest.
3. Dragnea,A.,Bota,A, (1999). Theory of motor activities, Didactic and Pedagogical Publishing House, Bucharest.
4. Gh., Mogo: ,A, (1977). Development of motor qualities ; Sport Publishing House – Tourism Bucharest

Semester – V

AGE GROUP SPORTS TRAINING: Football

COURSE CODE: BSC/CCP/504E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CCP/504 E	Age Group Sports Training: Football	4	128	50	50	100

Course Learning Outcomes

- To understand health and history background of different age
- To understand systematization of sports training
- To develop fitness components
- To develop different training for Age Group

UNIT-I

Health and History background

- 1.1. Review of history and health records of age group football players
- 1.2. Assessment of Present Physical fitness test of aged footballers
- 1.3. Observation of skills and game proficiency of different age group
- 1.4. Making Training plan for the different Age Group

UNIT-II

Systematization of Sports Training Process

- 2.1. Basic training
- 2.2. Intermediate training
- 2.3. Advanced training
- 2.4. High Performance training

UNIT-III

Fitness Components for Age Group athletics

- 3.1. Strength abilities
- 3.2. Endurance abilities
- 3.3. Speed abilities
- 3.4. Coordinative abilities and Flexibility

UNIT-IV

Training for Age Group

- 4.1.Characteristics during developmental stages
- 4.2. Designing fitness and conditioning training programme for different age group
- 4.3 Designing Preparatory period Training plan
- 4.4 Designing Competition period training plan

Evaluation Total Mark 100

Evaluation criteria	Internal Assessment	External Assessment
Physical Fitness test for different age group	15 Marks	15 Marks
Design conditioning and fitness programme for different age group	15 Marks	15 Marks
Design training plan for different age group	10 Marks	10 Marks
Record book and viva	10 Marks	10 Marks
Total	50 Marks	50 Marks



Semester – V

PRACTICAL: Football

COURSE CODE: BSC/CCP/ 505E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CCP/505E	Practical: Football	6	192	75	75	150

Course Learning objectives:

1. Learning and practice of functional Training of Different Position
2. Learning Set Pieces of Standard situations
3. Learning and practice of functional Training for defenders, winger, defender and attacker
4. Application in Game

UNIT-I

1. Functional training for different position
 - 1.1 Break way(goalkeeper)
 - 1.2 Positioning (goalkeeper)
 - 1.3** Mid -fielder (attacking)
 - 1.4** mid-fielder (defending)

UNIT-II

2. functional training for defenders
 - 2.1 centre back(defending)
 - 2.2** Centre back(attacking)
 - 2.3** Wing back (defending)
 - 2.4** Wing back(attacking)

UNIT-III

3. functional training for wingers and forward
 - 3.1 **Wingers** (attacking)
 - 3.2 Wingers**(defending)
 - 3.3 Forward**(attacking)
 - 3.4 Forward**(defending)

UNIT-IV

4. SET PICES(attacking and defending)

- 4.1 Direct free kick
- 4.2 Indirect free kick
- 4.3 Corner kick
- 4.4 Penalty kick

Evaluation Total Mark 150

Evaluation criteria	Internal Assessment	External Assessment
Direct kick (attacking)	15Marks	15Marks
Direct kick in (defending)	15 marks	15 marks
Indirect kick (attacking)	10 marks	10 marks
Indirect kick (defending)	10 marks	10 marks
Application in game	20 Marks	20 Marks
Record book and Viva	5 Marks	5 Marks
Total	75 Marks	75 Marks

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
THEORY						
BSC/CC/601	Adventure Sports	3	48	30	45	75
BSC/CC/602	Sports Technology and Innovation	2	32	20	30	50
BSC/CC/603	Philosophy of Sports Coaching	2	32	20	30	50
BSC/DSC/03	Sports Pedagogy	3	48	30	45	75
BSC/DSC/04E	Tests, Measurements and Evaluation: Football	2	32	20	30	50
LAB PRACTICAL						
BSC/CC(P)/601	Adventure Sports	1	32	10	15	25
BSC/DSC(P)/03E	Sports Pedagogy	1	32	10	15	25
BSC/DSC(P)/04E	Tests, Measurements and Evaluation: Football	1	32	10	15	25
SPORTS PRACTICAL						
BSC/CCP/604E	Gender Based Sports Training: Football	4	128	50	50	100
BSC/CCP/605E	Practical: Football	6	192	75	75	150
TOTAL		25	608	275	350	625

NB: CC= Core Course, AECC=Ability Enhancement compulsory course,DSC= Discipline Specific Course,
 GE=Generic Elective, SECC= Skill Enhancement core course, CCP= Core course practical

SEMESTER –VI
ADVENTURE SPORTS
COURSE CODE: BSC/CC/ 601

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/601	Adventure Sports	3	48	30	45	75

COURSE LEARNING OUTCOMES

After completing this course, the students will be able to

- Understand about adventure sports and its classification
- Understand about mountain sports and their equipment and clothing
- Understand about water sports and their equipment and clothing
- Understand about aero sports and their equipment and clothing

Unit I

Introduction to Adventure Sports

- 1.1 Classification of Adventure Sports
- 1.2 Scope of Adventure Sports: New Trends, Training Institutes, Job Opportunities, Advantages & Disadvantages
- 1.3 Fitness Training: Physical Fitness Factors, Fitness Training & its Importance
- 1.4 Ethics & Qualities of an Adventure Expert.

Unit II

Mountain Sports

- 2.1 Definition of Mountaineering, History, Types: Trekking, Rock Climbing, Bouldering, Ice Climbing, Wall Climbing
- 2.2 Trekking: Mountain Manners, Trek Planning, Trekking sites in India.
- 2.3 Rock climbing: Principles, Route Planning, Holds, Equipment and Clothing
- 2.4 Knots: Thumb, Reef, Clove Hitch, Fisherman, Simple Bowline, Figure of Eight

Unit III

Water Sports

- 3.1 Types: Canoeing, Kayaking, Rafting, Scuba Diving, Water Skiing
- 3.2 Adventure sports sites in India
- 3.3 Rafting & Kayaking: Equipment, Clothing & Techniques
- 3.4 Scuba Diving: Equipment, Clothing & Techniques

Unit IV

Aero Sports

- 4.1 Types: Ballooning, Hang gliding, Paragliding, Parasailing, Skydiving
- 4.2 Hang gliding & Paragliding: Equipment, Clothing & Techniques
- 4.3 Parasailing: Equipment, Clothing & Techniques
- 4.4 Sky diving: Equipment, Clothing & Techniques

PRACTICAL
Adventure Sports
COURSE CODE: BSC/CCP/601

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CCP/601	Adventure Sports	1	32	10	15	25

UNIT-I

- 1.1 Camping
- 1.2 Trekking, Hiking
- 1.3 Rock climbing/ artificial
- 1.4 Canoeing, kayaking, etc.

UNIT-II

- 2.1 Designing adventure Sports programme for School Children – Individual and Groups
- 2.2 Designing adventure Sports programme Sports for Youth – Individual and Groups
- 2.3 Designing adventure Sports programme Sports for Middle Aged People – Individual and Groups
- 2.4 Adventure sports equipment and its application

Suggested Reading:

1. Anker Conrad, Mountaineering the freedom hill, kindle ed., 2017
2. Berry Matt, Adventure Sports Coaching, Routledge; 1st edition (April 1, 2015)
3. Bob Gaines, Mastering Sports and Trad Climbing, Kindle 2018
4. Bob Gaines, Rock climbing for outdoor beginners, Kindle ed., 2020
5. Razzetta Sam, Canoe and Kayak Building the Light and Easy Way: How to Build Tough, Super-Safe Boats in Kevlar, Carbon, or Fiberglass (International marine-RMP), 2009
6. Randy pen, The handy box of knots: Useful knots for every situation, Indoor and Out, Sterling Innovation, 2017
7. Slight Steve and Ben Ainslie, The Complete Sailing Manual, 4th Edition, DK, 2017

SEMESTER – VI
SPORT TECHNOLOGY
COURSE CODE – BSC/CC/602

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/602	Sport Technology	2	32	20	30	50

COURSE LEARNING OUTCOME

After completing this course, the students will be able to

- Understand the relevant technology and utilization of technology in sports.
- Understand the science of sports material and its implementation in enhance of Sports performance.
- Understand the different type of surface of play field.

UNIT - I

Sports Technology

- 1.1 Opportunities and challenges in sports technology.
- 1.2 The nature of Sports Technology and Data Science in sports performance
- 1.3 A scientific view on sports technology
- 1.4 Technologies for judging, umpiring and refereeing

UNIT – II

Material Science in Sports

- 2.1 Importance of Material Science in sports
- 2.2 The key aspects of materials processing, performance and disposal with respect to sustainability
- 2.3 Types of materials used in Playing Equipment, Balls, Footwear and sports garments.
- 2.4 Understanding the role of polymers in sports equipment

UNIT – III

Artificial Sports Surfaces

- 3.1 Modern surfaces for playfields, construction and installation of sports surfaces.
- 3.2 Types of surface materials: synthetic, wood, polyurethane. Artificial turf.
- 3.3 Importance of ergonomics in sports equipment
- 3.4 Maintenance of artificial turf and synthetic flooring. Case studies: synthetic sports surfaces

Suggested Reading:

1. Charles J.A. Crane, F.A.A. and Furness, J.A.G. (1987) "Selection of Engineering Materials" UK: Butterworth Heiremann.
2. Finn, R.A. and Trojan P.K. (1999) "Engineering Materials and their Applications" UK: Jaico Publisher.
3. John Mongilo, (2001), "Nano Technology 101 "New York: Green wood publishing group.
4. Kochar, S.K. Methods and Techniques of Teaching (New Delhi, Jullandhar, Sterling Publishers Pvt. Ltd.), 1982
5. Kozman, Cassidy and Jackson. Methods in Physical Education (W.B. Saunders Company, Philadelphia and London), 1952.



SEMESTER –VI
PHILOSOPHY OF SPORTS COACHING
COURSE CODE: BSC/CC/603

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/603	Philosophy of Sports Coaching	2	32	20	30	50

COURSE LEARNING OUTCOME

After completing this course, the students will be able to

- Understand about introduction to and a comprehensive study of the philosophy of sport coaching.
- It is designed to examine the most significant questions that have arisen within the discipline of sports science.
- It may focus upon various ethical issues that arise within the sports and the function of games in human life.

UNIT-I

Introduction to Sports Coaching Philosophy

- 1.1 Meaning of Coaching Philosophy
- 1.2 Nature and significance of play and sports as a cultural phenomenon
- 1.3 Sport: An Historical Phenomenology
- 1.4 Fairness in sport: an ideal and its consequences

UNIT-II

Coaching Philosophy: Science and Art

- 2.1. Coaching: Art, Science, Skill, style and secret of successful coaching.
- 2.2. Effective Practices, Knowledge- what makes a coach.
- 2.3. A Coach- Teacher- Trainer-motivator-disciplinarian –scientist, Coach as a Leader and leadership style in Coaching.
- 2.4. Moral and ethical values of Sports, ethics in sports coaching.

UNIT- III

Developing a Coaching Philosophy

- 3.1. Philosophy of a Coach and development of own coaching philosophy.
- 3.2. Long term and short-term coaching conception, Aesthetic appreciation and Intellectual creativity in coaching.
- 3.3. Performance development, improvement, management and maintenance.
- 3.4. Coaching Philosophy for diverse athletes and coaching for character, Leadership capacity and Responsible citizenship.

Suggested Reading:

1. Bucher, C.A.: Foundation of Physical Education, St. Louis: The C.V. Mosby company, 1983.
2. History and Philosophy of Sport and Physical Activity, Human Kinetics by R. Scott Kretchmar, Mark Dyreson, Matthew Liewellyn, John Gleaves, 2017.
3. Synder and Geoh: Professional preparation in Health Education, Physical Education and Recreation.
4. Barrow, H.M.: Man and Movement: Principles of Physical Education, Philadelphia Lea and Fabiger, 1977.
5. Joseph, P.M.: Organization of Physical Education, Kandivila,: Old students Association, T.I.P.E.
6. Kamlesh, M.L. and Sangral, M.S.: History and Principles of Physical Education, Prakash Brothers, 1983.
7. Wuest and Bucher: Foundations of Physical Education and Sports, B.I. Publications Pvt. Ltd., New Delhi.
8. William, H.F.: Physical Education and Sports in Changing Society, Surjeet Publication, Delhi.



SEMESTER –VI
SPORTS PEDAGOGY
COURSE Code: BSC/DSC/03

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/DSC/03	Sports Pedagogy	3	48	30	45	75

COURSE LEARNING OUTCOME

After completing this course, the students will be able to

- Understand the current issue in sports coaching Pedagogy
- Understand various teaching and coaching methods and coaching aids
- Preparation of lesson plans for various sports skill and Presentation techniques
- Utilize various teaching and coaching aids for the conduction of sports coaching.

UNIT- 1

Introduction and current issue in Sports Coaching Pedagogy

- 1.1 Meaning and definition of sports pedagogy
- 1.2 Current issues in sports coaching pedagogy
- 1.3 Technology and sports coaching
- 1.4 Sports Coach Education framework

UNIT-II

Methods, Teaching and Coaching Aids

- 2.1 Meaning, Importance and Types of Teaching and Coaching Aids.
- 2.2 Criteria for selecting Teaching Aids: Availability, Modification and, Scientific Aids
- 2.3 Simulation Teaching: Meaning, Types and steps of simulation teaching.
- 2.4 Types of Teaching Methods: Lecture, Command, Discussion, Workshop, Project, Demonstration, Imitation methods, and whole part whole methods

UNIT-III

Coaching Lesson Plan and Presentation Technique

- 3.1 Lesson Planning: Meaning, Importance, Types and Principles of lesson plans.
- 3.2 Presentation Techniques: Personal and Technical preparation, Steps of presentation – Demonstration, Explanation, Practice and, Rectification.
- 3.3 Class Construction and Classification:
- 3.4 Methods of Sports Coaching: Simple to Complex, Known to Unknown, Whole-Part-Whole Method, and Learning by Doing.

Unit- IV

Methods applied to teaching and training in sports

- 4.1 The difference between learning and doing
- 4.2 Individual attention to the player in teaching and learning process, types of practice skill;
Fixed, massed, variable and distributed practice.
- 4.3 Evaluation of sports training and teaching
- 4.4 Connecting sports training to Life skill



**PRACTICAL
SEMESTER – VI
SPORTS PEDAGOGY (LESSON PLAN)**

COURSE CODE: BSC/DSC(P)/ 03E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/DSC(P)/03E	Sports Pedagogy (Lesson Plan)	1	32	10	15	25

- The students will practice 15 coaching lessons.
- They will appear practical examination (Final Lesson) and evaluated by both internal and external examiner.

Total marks 100
(Internal Marks 50 and external Marks 50)

Lesson plan:

Class formation
Introduction
Demonstration
Explanation
Kinesiological and Mechanical analysis
Rectification
Lead up activities
Class Dismissal

Evaluation	Internal assessment	External assessment
Class formation introduction and Reporting	10 marks	10 marks
Demonstration	10 marks	10 marks
Explanation	10 marks	10 marks
Rectification and class control	10 marks	10 marks
Lead up activities, dismissal part and Time Management	10 marks	10 marks
Total	50 Marks	50 Marks

Suggested Reading

1. Cassidy, T. (2004). Coaching methods. In C. Cassidy, R. Jones & P. Protrac (Eds). *Understanding Sports Coaching: The Social Cultural and Pedagogical Foundations of Coaching Practice* (pp26-37). London: Routledge.
2. Kidman, L. (2001). *Developing Decision Makers: An Empowerment Approach to Coaching*. Christchurch, NZ: Innovative Print Communications
3. Bhardwaj, A. (2003). *New media of educational planning*. New Delhi: Sarup of Sons.
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SEMESTER – VI
TESTS, MEASUREMENTS, AND EVALUATION: Football
COURSE CODE: BSC/DSC/04E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/DSC/04E	Tests, Measurements, and Evaluation: Football	2	32	20	30	50

ESSENCE OF COURSE

The course will enable students to understand the Test, Measurement and Evaluation. It aims to see how much a player learn during the Training period.

COURSE LEARNING OUTCOMES

After completing this course, the students will able to

- ❖ To understand test measurement and evaluation.
- ❖ To understand team selection and construction of tests.
- ❖ To know the test and construction of tests.
- ❖ Assessment of physical performance.

UNIT--I

Introduction:

- 1.1. Meaning of Test Measurement and Evaluation.
- 1.2. Nature and scope of evaluation programme.
- 1.3. Need and importance of evaluation in the field of physical education.
- 1.4. Principles of Evaluation.

UNIT--II

Measurement of Physical Performance:

- 2.1 Organic Functions: Cardiovascular and respiratory function
- 2.2 Cooper's 12 minutes continuous run-walk test and modifications ○ 12 minutes cycling test (Coopers)
- 2.3 Harvard step test and its modifications (High School and college level (Men and Women))
- 2.4 Tuttle Pulse ratio test; Hyman's Cardio pulmonary Index(CPI)

UNIT--III

Skill test in football

3.1 Importance of Skill test in Football

3.2 McDonald Soccer skill test, Johnson Soccer Test

3.3 SAI Soccer Test

3.4 Football- A Football Specific Beep Test, Ronaldo Soccer Test



PRACTICAL
TESTS, MEASUREMENTS AND EVALUATION: Football
Course CODE: BSC/DSC(P)/04E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/DSC(P)/04E	Tests, Measurements and Evaluation: Football	1	32	10	15	25

UNIT-I

- I.1 McDonald Soccer skill test
- 1.2. Johnson Soccer Test
- 1.3. SAI Soccer Test
- 1.4. Footeval- A Football Specific Beep Test

UNIT-II

- 2.1. Administration of AAHPER youth fitness test
- 2.2. Harvard step test
- 2.3. Coopers 12 minutes run-walk test
- 2.4. Tuttle pulse ratio test

Suggested Readings

1. Bangsbo, J. (1994). Fitness training in football: A scientific approach. Bagsvaerd, Denmark: Ho+Storm.
2. Barron, H. M., & Mchee, R. (1997). A practical approach to measurement in physical education. Philadelphia: Lea and Febiger.
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5. Mathews, D.K., (1973). Measurement in physical education, Philadelphia: W.B. Saunders Company.
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8. Sodhi, H.S., & Sidhu, L.S. (1984). Physique and selection of sports- a kinanthropometric study. Patiala: Punjab Publishing House.

Semester – VI
PRACTICAL
GENDER BASED SPORTS TRAINING: Football
COURSE CODE: BSC/CCP/604E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CCP/604 E	Gender Based Sports Training: Football	4	128	50	50	100

Course Learning Objectives:

Learning game strategies and tactics and its application to game

Learning and practice of team defending and attacking tactics

Learning and Practice of defending style of play

Learning and Practice of attacking style of play

UNIT-I

Game strategy and tactics

- 1.1 Individual tactics defending and attacking
- 1.2 Group tactics defending and attacking
- 1.3 Team tactics defending
- 1.4 Team tactics attacking

UNIT-II

Style of play (defending)

- 2.1. Defending style of play
- 2.2. High pressure
- 2.3. Low defending
- 2.4. Combination of both play

UNIT-III

Style of play (attacking)

- 3.1. Attacking style of play
- 3.2. Direct style of play
- 3.3. Indirect style of play

3.4. Combination of both style of play

UNIT-IV

System of play

4.1 Fitness of the player

4.2 Offensive style

4.3 Defensive style

4.4 Opponent team

Evaluation Total Mark 100

Evaluation criteria	Internal Assessment	External Assessment
Designing training programme for women (different age)	20Marks	20Marks
Preparing Coaching schedule	20 marks	20 marks
Record book and Viva	10 Marks	10Marks
Total	50marks	50 marks



Semester – VI

Practical: Football
COURSE CODE: BSC/CCP/605E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CCP/605E	Practical: Football	6	192	75	75	150

Course Learning Objectives:

Learning game strategies and tactics and its application to game

Learning and practice of team defending and attacking tactics

Learning and Practice of defending style of play

Learning and Practice of attacking style of play

UNIT-I

Game strategy and tactics

- 1.5 Individual tactics defending and attacking
- 1.6 Group tactics defending and attacking
- 1.7 Team tactics defending
- 1.8 Team tactics attacking

UNIT-II

Style of play (defending)

- 2.5. Defending style of play
- 2.6. High pressure
- 2.7. Low defending
- 2.8. Combination of both play

UNIT-III

Style of play (attacking)

- 3.5. Attacking style of play
- 3.6. Direct style of play
- 3.7. Indirect style of play
- 3.8. Combination of both style of play

UNIT-IV

System of play

4.1 Fitness of the player

4.2 Offensive style

4.3 Defensive style

4.4 Opponent team

4. Evaluation Total Mark 150

Evaluation criteria	Internal Assessment	External Assessment
Individual tactics	15Marks	15Marks
Group tactics	15 marks	15 marks
Team tactics	10 marks	10 marks
Attacking system of play	10 marks	10 marks
Defending system	20 Marks	20 Marks
Record book and Viva	5 Marks	5 Marks
Total	75 Marks	75 Marks

SEMESTER – VII

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
THEORY						
BSC/CC/701E	Team Preparation and Match Analysis	3	32	30	45	75
BSC/CC/702	Community Coaching	3	32	30	45	75
SPORTS PRACTICAL						
BSC/CCP/701E	Team Preparation and Match Analysis	4	128	50	50	100
BSC/CCP/702E	Internship	8	256	50	150	200
BSC/CCP/703E	Aged People Sports Training: Football	4	128	50	50	100
BSC/D/704E	Dissertation: Research Proposal – Football	3	48	30	45	75
TOTAL		25	640	240	385	625

NB: CC= Core Course, AECC=Ability Enhancement compulsory course,DSC= Discipline Specific Course,
 GE=Generic Elective, SECC= Skill Enhancement core course, CCP= Core course practical

SEMESTER – VII

TEAM PREPARATION AND MATCH ANALYSIS

COURSE CODE: BSC/CC/701E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/701E	Team Preparation and Match Analysis	3	48	30	45	75

COURSE LEARNING OUTCOME

After completing this course, the students will be able to

- Understand team preparation and match analysis
- Understand match preparation both individual and team sports
- Understand importance of pre match, in game and post-match
- Understand coach analysis intervention system

UNIT-I

Introduction to Team Preparation

- 1.1. Importance of team preparation and Match analysis
- 1.2. Team preparation for the competition period and competition schedule days
- 1.3. Match analysis its meaning, Need and importance of Match analysis
- 1.4. Equipment and technology required in match analysis

UNIT-II

Match Preparation Training both Individual and Team Sports

- 2.1. Team work and Tactics familiarity
- 2.2. Preparing alternate tactics both individual and team sports
- 2.3. Work, rest intensity training
- 2.4. Building targets into your training sessions

UNIT-III

Match Analysis

3.1 Coach Analysis Intervention System (CAIS)

3.2 Match analysis pre, during and post-match

3.3 Qualitative and quantitative analysis

3.4 Inclusion of Computer & Video Technology, Match analysis software



PRACTICAL

Team Preparation and Match Analysis

COURSE CODE: BSC/CC(P)/701E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC(P)/701E	Team Preparation and Match Analysis	1	32	10	15	25

UNIT-I

- 1.1 Video presentation and match analysis technology by modern software
- 1.2 Showing presentation on match analysis pre competition and during completion
- 1.3 Using video technology in individual and team sports
- 1.4 Mechanical analysis of sports movement and fault correction

UNIT-II

- 2.1 Match preparation training schedule and tactics in individual sports
- 2.2 Match preparation training schedule and tactics in team games
- 2.3 Use of Coach Analysis Intervention System (CAIS)
- 2.4 Application of Modern Sports Officiating Technology

SEMESTER – VII
COMMUNITY COACHING
COURSE CODE: BSC/CC/702

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/702	Community Coaching	3	48	30	45	75

COURSE LEARNING OUTCOME:

After completing this course, the students will be able to:

- Understand about community coaching
- Understand differentiation between community coaching and other types of coaching
- Volunteer services to the community for enhancement of societal value of sports
- Benefit of community coaching for society

Unit-I

Introduction of Community Sports Coaching

- 1.1 Meaning and definition of community coaching
- 1.2 Need and importance of Community coaching
- 1.3 Scope of community coaching
- 1.4 Differentiation between community coaching and other types of coaching

Unit-II

Methods of Sports Coaching in Community

- 2.1 Framework for Coaching in Community
- 2.2 Coaching for Relationships and Coaching for Reflection
- 2.3 Coaching for Results and Coaching for Reach
- 2.4 Coaching for Resilience

Unit-III

Community Coaching and Development of Society

- 3.1 Counseling and motivating athletes and parents for participation in sports Community coaching in Society development
- 3.2 Personal and transferability Developments
- 3.3 Life Skill Developments
- 3.4 Coaching Benefits of Communities

Unit-IV

Community Development: Role of Sports

- 4.1. Community Development through Sports for all initiative; Planning and execution.
- 4.2. Role of Community Coaching Organizations: Economic value, Health and environmental benefits, and social importance.
- 4.3. Art of counseling for active leaving and sports participation of novice participation
- 4.4. Art of effective communication for parents and spectators for participation in sports

Suggested Reading

1. *Community Coaching Development, Khelo India schemes*, Government of India Ministry of Youth Affairs and Sports-2019.
2. Mary Emery, PhD, Ken Hubbell and Becky Miles-Polka, *A Field Guide to Community Coaching*, Published with support from the W. K. Kellogg Foundation, the Annie E. Casey Foundation, (Kellogg Action Lab at Fieldstone Alliance, and the Northwest Area Foundation-2011)
3. Rob Wilson, Chris Platts, *Managing and Developing Community Sport*, Published, 2018, CRC Press.



Semester – VII
PRACTICAL
INTERNSHIP
COURSE CODE: BSC/CCP/702E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CCP/702E	Internship	8	256	50	150	200

Internship is an important component of sport coaching that provides students with the opportunity to gain applied practical experience in the field of sport coaching. It allows a student to employ what is learned in class in a supervised environment, which is critical in order to further develop professional skills and assure quality practice. Each student admitted to the B.Sc. in Sports Coaching course shall undergo 8 Credits (256 hours) compulsory internship programme at SAI Centres under Ministry of Youth Affairs and Sports (MYAS). The internship programme shall be of 200 marks.

LEARNING OBJECTIVES OF INTERNSHIP:

The internship would examine the implementation of curriculum-based knowledge acquired by the Under Graduate Students which includes the following learning objectives:

- Theories about coaching requirement and relevance for the sports and exercise participants.
- The social context within which sport coaching is applied.
- Methods and ways to carry out studies in the sports coaching with which the student shall be able to reflect upon the way these methods are applied for Sport Coaching as a profession.
- To acquire knowledge of the challenges faced by sports coaches and the ways to address them.

ASSESSMENT CRITERIA FOR INTERNSHIP:

Sr. No.	Please evaluate this student intern on the following items:	Max. Marks
1.	Arrived to work on-time (Punctuality, sincerity, dedication and devotion towards work)	15
2.	Behaved in a professional manner and dealing with players at SAI Centre	15
3.	Effectively performed Assignments given by Chief Coach/ Senior Coach/Asst. Coach of SAI.	15
4.	Communication skills PPT presentation to Players of the Centre (Sports related topic)	15
5.	Teaching lesson Ability (5 lesson)	15
6.	Coaching lesson Ability (5 lesson)	15
7.	Warming up (General & Specific), Cooldown and Conditioning class taken Ability	15
8.	Officiating ability of the Game	15
9.	Observation of records and register of the SAI Center and report writing on records and registers	15
10.	Observation of on Maintenance of Equipment and Play fields (Report writing about Maintenance of Play field and equipment)	15
Total		150
INTERNAL ASSESMENT		50
TOTAL MARKS FOR INTERNSHIP		200

SEMESTER – VII

AGED PEOPLE SPORTS TRAINING: Football

COURSE CODE: BSC/CCP/703E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CCP/703E	Aged People Sports Training: Football	4	128	50	50	100

Learning Outcomes

- To understand health and history background
- To understand systematization of sports training
- To develop fitness components
- To understand walking football

UNIT-I

Health and History background

- 1.1. Health records of an Aged people
- 1.2. Present fitness condition
- 1.3. Training load
- 1.4. Making plan for the different Aged people

UNIT-II

Systematization of Sports Training Process

- 2.1 Basic training
- 2.2 Recovery
- 2.3 Advanced (Intermediate) training
- 2.4 High Performance training

UNIT-III

Fitness Components for Aged people

- 3.1 Endurance abilities
- 3.2 Speed abilities
- 3.3 Coordinative abilities
- 3.4 Flexibility and agility

UNIT-IV

Football for over 50 years

- 4.1 The rise of walking football
- 4.2 Benefit of football in old age group
- 4.3 Health benefit
- 4.4 Overcome the obstacle

Evaluation Total Mark 100

Evaluation criteria	Internal Assessment	External Assessment
Designing fitness and conditioning for masters athletes	15 Marks	15 Marks
Designing coaching programme	15 Marks	15 Marks
Designing Training programme	10 Marks	10 Marks
Motor quality development training and administration proficiency	10 Marks	10 Marks
Total	50 Marks	50 Marks

SEMESTER – VII
DISSERTATION: RESEARCH PROPOSAL - Football

COURSE CODE: BSC/D/704E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/D/704E	Dissertation: Research Proposal - Football	3	48	30	45	75

LEARNING OBJECTIVES

To enable the students to develop skills and competencies for conducting rigorous, theoretically correct and practically relevant research in Bachelors of Science Sports Coaching.

LEARNING OUTCOME:

- By completing the Bachelors thesis, students will demonstrate their academic ability, i.e., their ability to think critically, write according to academic standards, and conduct independent research that is critical, methodical, and systematic.
- A student admitted to B.Sc. Sports Coaching must submit his/her Synopsis and get it approved by the Head of Department on the recommendation of Department Research Committee (DRC).
- The beginning of the process of Dissertation will start in the beginning of VII Semester in form of preparation and submission of synopsis, facing and getting final approval from the DRC.
- The Final Dissertation must be submitted not less than one week before the beginning of the VIII Semester Examination.
- The candidate has to face the Viva-Voce examination conducted by DRC.

Structure of the Synopsis:

- 1. Title Page**
- 2. Certificate**
- 3. Acknowledgements**
- 4. Table of Contents**
 - ▶ Chapter 1: Introduction
 - ▶ Chapter 2: Review of Literature
 - ▶ Chapter 3: Methods

References

Evaluation:

Credit: 3

75 Marks

The students will present their Synopsis through PPT in front of Supervisor and Departmental Research Committee (DRC). Both Supervisor and DRC will evaluate their synopsis presentation and Viva.

Internal Assessment 30 marks (Supervisor)

External Assessment 45 marks (DRC)



SEMESTER – VIII

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
THEORY						
BSC/CC/801	Science of Yoga	3	48	30	45	75
BSC/CC/802	Introduction to Paralympic and Special Olympic	3	48	30	45	75
PRACTICAL						
BSC/CC(P)/801	Science of Yoga	1	32	10	15	25
BSC/CC(P)/802	Introduction to Paralympic and Special Olympic	1	32	10	15	25
SPORTS PRACTICAL						
BSC/CCP/803E	Advance Coaching Lesson: Football	6	192	75	75	150
BSC/CCP/804E	High Performance Sports Training: Football	4	128	50	50	100
BSC/D/805E	Dissertation: Football	7	112	75	100	175
TOTAL		25	592	280	345	625

NB: CC= Core Course, AECC=Ability Enhancement compulsory course,DSC= Discipline Specific Course, GE=Generic Elective, SECC= Skill Enhancement core course CCP= Core course practical, D = Dissertation

SEMESTER – VIII

SCIENCE OF YOGA

COURSE CODE: BSC/CC/801

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/801	Science of Yoga	3	48	30	45	75

LEARNING OUTCOME

After completing this course, the students will be able to acquire knowledge about

- Understand the concept of yoga and historical background.
- Understand different school of yoga
- Practical and theoretical knowledge about yogic practice of Kriyas, asanas, pranayamas, and different meditation techniques.

UNIT – I

Introduction and historical background of Yoga

- 1.1 Meaning, Definitions and Historical background of Yoga
- 1.2 Aim & Objectives of Science Yoga, Ayurveda: Yoga and Vayayama
- 1.3 Contribution of ancient Yogic text for the development of Science of Yoga
- 1.4 Application of Yoga in modern society

UNIT – II

Different Schools of Yoga

- 2.1 Introduction to different schools of Yoga.
- 2.2 The Astanga Yoga: Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana and Samadhi.
- 2.3 Types of Yoga: Karma Yoga, Bhakthi Yoga, Jnana Yoga, Raja Yoga, Hatha Yoga etc.
- 2.4 Meditation, Strategies for relaxing body and mind, Various method of relaxation techniques

UNIT – III

Introduction to various practices of Yoga and its implications in sports specific training

- 3.1 Shatkarma – Meaning, Types, techniques, Precautions and Benefits
- 3.2 Asanas - Meaning, Definitions, Types, Techniques, Precautions and benefits
- 3.3 Pranayama - Meaning, Definitions, Types, Techniques, Precautions and benefits
- 3.4 Mudras – Meaning, Types, Technique, Precautions and Benefits

UNIT-IV

Yoga Art and Science

- 4.1 Yoga is an art, Science and Philosophy: a critical analysis
- 4.2 Difference between yogic practices and physical exercises
- 4.3 Yoga for lifestyle diseases
- 4.4 Application of Yoga in sports performance

PRACTICAL

Science of Yoga

COURSE CODE: BSC/CC(P)/801

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC(P)/801	Science of Yoga	1	32	10	15	25

Unit-I

Yogic Kriya, Yogasana and Mudras and its practices and implication in Sports

- 1.1. Kriya-kapalbhati, Trataka, Nauli
- 1.2. Asana- Standing, Sitting, Laying
- 1.3 Surya Namaskar and Chandra Namaskar
- 1.4 Mudras

Unit- II

Pranayama and Dhayana and its practices and implication in Sports

- 2.1. Pranayama- Balancing, Heating, Cooling
- 2.2. Dhyana for beginners and intermediates
- 2.3 Stress management through yoga
- 2.4 Development of concentration through yoga

SUGGESTED READING

1. Muktibodhananda S. (2013). *Hatha Yoga Pradipika*, Munger, Bihar School of Yoga Publication (3rd ed.). ISBN-10:9788185787381
2. Niranjana S. S. *Gheranda Samhita*. (2012). Munger, Bihar School of Yoga. Publication ISBN-9789381620199
3. Maheshananda S, Sharma B.R., Sahay GS, Bodha R.K, Jha B.L, Bharadwaj C.L. (2009). *Siva Samhita*. Lonavalla, Kaivalyadhama Publication. ISBN: 9788189485535
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7. Nagarathna R, Nagendra H.R. (2008). *Yoga for Promotion of Positive Health*. Vivekananda Yoga Research Foundation Swami Vivekananda Yoga Prakashana. ISBN: 9788187313083
8. Iyengar B.K.S. (2003). *Light on Yoga*, USA, HarperCollins. ISBN: 8172235011
9. Mondal S. (2013). Science of exercise: ancient Indian origin. *J Assoc Physicians India* . 61: 40-42.

SEMESTER – VIII

INTRODUCTION TO PARALYMPIC AND SPECIAL OLYMPIC

COURSE CODE: BSC/CC/802

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC/802	Introduction to Paralympic and Special Olympic	3	48	30	45	75

COURSE LEARNING OUTCOME:

After completing this course, the students will be able to

- To understand the Paralympic sport, rules & regulations and also learn the history of Paralympic
- Understand the classification and laws of Paralympic sports
- Understand the Special Olympic rules and regulation.
- Understand Special Olympic sports events, equipment and training.

COURSE CONTENTS

Paralympic Sports

- 1.1 History of Paralympic movement and Special Olympics.
- 1.2 Rules and regulations of Paralympic.
- 1.3 Paralympic Committee: International and National
- 1.4 Ceremonies of Paralympic: opening, closing and event management

UNIT-II

Paralympics Sports Classification

- 2.1 Introduction to Paralympic sports classification.
- 2.2 Eligibility criteria: medical classification & functional classification.
- 2.3 Steps of Classification: eligible impairment, minimum disability criteria and sport class.
- 2.4 Category of summer & winter Paralympic

UNIT-III

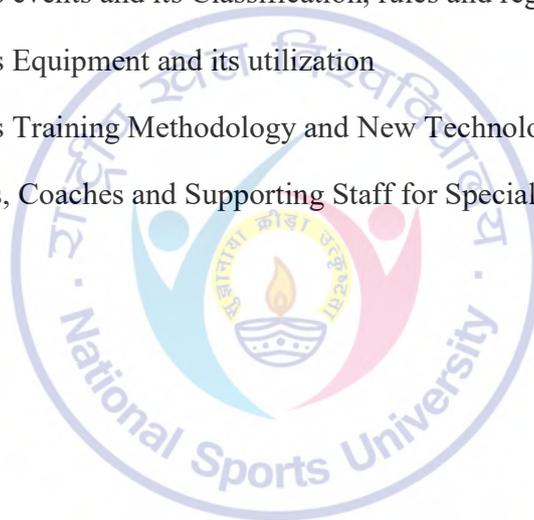
Paralympic Laws

- 3.1 System of Paralympic Governance on National and International Level.
- 3.2 Fundamental principles of Paralympic movement.
- 3.3 Human Right in Paralympic context.
- 3.4 Performance enhancement regulation in Paralympic context: medicine, equipment and new technology.

UNIT-IV

Special Olympic Sports Events, Equipment and Training

- 4.1 Special Olympic Sports events and its Classification, rules and regulation.
- 4.2 Special Olympic Sports Equipment and its utilization
- 4.3 Special Olympic Sports Training Methodology and New Technology
- 4.4 Preparation of Officials, Coaches and Supporting Staff for Special Olympic



PRACTICAL

INTRODUCTION TO PARALYMPIC AND SPECIAL OLYMPIC

Course CODE: BSC/CC(P)/802

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CC(P)/802	Introduction to Paralympic and Special Olympic	1	32	10	15	25

UNIT-I

- 1.1 Designing various types of exercises for impaired muscle power person
- 1.2 Designing various types of exercise for limb deficiency person
- 1.3 Designing various types of exercise and sports for Paralympic Sports Person
- 1.4 Paralympic Sports Events and planning.

UNIT- II

- 2.1 Designing various types of exercise and Sports for Hearing Impairment
- 2.2 Designing different types of exercise and Sports for Vision Impairment
- 2.3 Designing different types of exercise and Sports for Intellectual Impairment
- 2.4 Special Olympic Sports events

Assessment of individual potential and design special training plan

SUGGESTED READING

1. "Assistive technologies". Spaulding Framingham. Retrieved September 5, 2012.
 - a. 2004. 376 ps.
2. Anoop Jain, "Adapted Physical Education" Sports Publications, Ashok Vihar Delhi-52
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17. Scherer, Marcia and Stefano Federici (2012). Assistive Technology Assessment Handbook. CRC Press. p. 425. ISBN 9781439838655.
18. Shekar KC, Adapted Physical Education (KhelSahitya Kendra: New Delhi)-2005
19. Sons, 2008 г. 302 ps.
20. Steve Bailey. Athlete First: A History of the Paralympic Movement. John Wiley &
21. Winnick JP, Adapted Physical Education and sport Human Kinetics USA, 2005 Uppal, A. K. (1990).



SEMESTER – VIII

ADVANCE COACHING LESSON: Football

COURSE CODE: BSC/CCP/803E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CCP/803E	Advance Coaching Lesson: Football	6	192	75	75	150

- The students will practice 15 coaching lessons for elite players.
- They will appear practical examination (Final Lesson) and evaluated by both internal and external examiner.

Total marks 100

(Internal Marks 50 and external Marks 50)

Lesson plan: Class formation
Introduction
Demonstration
Explanation
Kinesiological and Mechanical analysis
Rectification
Performance analysis
Lead up activities
Class Dismissal

Evaluation	Internal assessment	External assessment
Class formation introduction and Reporting	10 marks	10 marks
Demonstration	10 marks	10 marks
Explanation	10 marks	10 marks
Rectification and class control	10 marks	10 marks
Performance Analysis	10 marks	10 marks
Total	50 Marks	50 Marks

SEMESTER – VIII
HIGHPERFORMANCE SPORTS TRAINING: Football
COURSE CODE: BSC/CCP/804E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/CCP/804 E	High Performance Sports Training: Football	4	128	50	50	100

UNIT-I

Match analysis

- 1.1 Ball possession
- 1.2 Foul, offside
- 1.3 Shooting on target
- 1.4 Caution and minutes of score

UNIT-II

Video analysis

- 2.1. Understand the mistake
- 2.2.Motivate and perform batter
- 2.3.Strong points
- 2.4.Analysis of matches

UNIT-III

Planning

- 3.1.Knowledge of the opponent team
- 3.2.Planning before match
- 3.3.During the match
- 3.4.Post match

UNIT-IV

Relation

- 4.1.Relationship with the players
- 4.2.Handling the other coaching staff
- 4.3.Communication with other
- 4.4.Media relation and public speaking

SEMESTER – VIII

DISSERTATION: Football

COURSE CODE: BSC/D/805E

Course Code	Course Name	Credit	Teaching Hours	Internal Marks	External Marks	Total Marks
BSC/D/805E	Dissertation: Football	7	112	75	100	150

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Total Marks 175

Internal assessment: 75 Marks and External Assessment 100 Marks.

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